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ABSTRACT

A study of the Center for Literacy's (CFL) program was conducted to provide information on retention and attrition in an urban, open-entry/open-exit, individualized, goal-based literacy program. An exploratory analysis that used student and tutor records from 1985 through 1989 provided a summary of demographics and attendance patterns. This information, staff interviews, and a literature review were used to create working definitions of retention and attrition and to form research questions. The study also conducted statistical analysis of variables affecting retention. These variables were found to have a statistically significant effect on student retention: sex, instructional level, age, ethnic membership, dependents, employment, previous educational experience, handicap, area of residence, and area of instruction. Some program implications that were developed focused on: specific, individualized student goals and interests; increased student support from staff; topic-oriented small group instruction; increased flexibility for special needs; ongoing tutor/teacher support; and drop-in centers for transition periods. These significant tutor variables were identified: age, educational background, and ethnic membership. Program implications regarding tutors were also developed. (Thirty-two references are cited. Appendixes include a sample student data file and numerous additional tables.) (YLB)

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A RESEARCH STUDY IN RETENTION

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June 1990

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Abstract

Purpose and Objectives

Adult literacy educators as well as researchers will find useful this research study on retenton and attrition in an urban, open entry/open exit, individualized, goal-based adult literacy program. The objectives of the study included:

- to conduct exploratory analysis of existing student and tutor data
- to create working definitions of retention and attrition
- to form research questions regarding variables to be considered
- to conduct statistical analysis of variables affecting retention
- to draw program implications based on statistical analysis results
- to produce a final report of the study

Approach

An exploratory analysis of the Center For Literacy's (CFL) program using student and tutor records from 1985 through 1989 was completed which provided a summary of demographics and attendance patterns. Using this information along with staff interviews and literature review, working definitions of retention and attrition were created and research questions were formed. Statistical analysis was done using a range of descriptive and inferential statistical techniques as well as complex correlational analyses. The data were analyzed using the Digital VAX computing facilities at Research for Better Schools. Results of statistical analysis were interpreted by CFL staff, program implications were developed, and recommendations for future research are presented

Findings and Implications

Variables which were found to have a statistically significant effect on student retention were: ***sex, instructional level, age, ethnic membership, dependents, employment, previous educational experience, handicapped, area of residence, and area of instruction.*** Some program implications which were developed are:

- Focusing on specific, individualized student goals and interests
- Increased student support from staff
- Topic oriented small group instruction
- Increased flexibility for special needs
- Relevant curriculum and materials
- Tutor/teacher training oriented to specific student needs
- Ongoing tutor/teacher support
- Meaningful and supportive initial and ongoing assessment
- Portfolio assessment for increased understanding of progress, processes and goals
- Student collaboration
- Drop-in centers for transition periods

Some significant tutor variables which were identified are: ***age,educational background, and ethnic membership.*** Some of the program implications discussed are:

- Using tutors as classroom aides
- Using tutors to assist in drop-in centers or with special projects
- Providing extra on-going support and trainging sessions for tutors
- Pairing new tutors with experienced tutors for extra support
- Networking with already existing community services
- Tailoring support to the needs of specific communities

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List of Tables and Figures

Table	Title	Page
1	Student Characteristics	22
2	Missing Values	26
3	Tutor Characteristics	33
4	Student Comparisons	46
5	Tutor Comparisons	52

Figure	Title	Page
1	Research Questions and Analytic Approach	17

Table of Contents

	Page
Acknowledgements	ii
List of Tables and Figures	iii
Chapter One: Introduction	1
Objectives	2
Purpose	2
Audience	3
The Study	4
Chapter Two: Background of the Study and Procedure	5
The Problem	5
The Procedure	6
Chapter Three: Research Questions And Working Definitions	15
Objectives	15
Students	15
Tutors	29
Chapter Four: Analysis and Results	38
Objective	38
Students	38
Tutors	50
Conclusion	51
Chapter Five: Discussion and Implications	55
Objective	55
Students	56
Tutors	69
Chapter Six: Conclusions and Recommendations for Further Inquiry	74
Objective	74
Other Quantitative Concerns	74
Qualitative Concerns	75

Page

Suggestions for Data Collection/Data Management 76
Concluding Comments 77
Bibliography 79
Appendix 82
Examples of Traditional Definitions 82
Sample Data Files 83
Variables Defined 85
Newsletter Article 89
Additional Tables 90

CHAPTER ONE: INTRODUCTION

While staff members at the Center For Literacy (CFL) have intuitions about what factors affect retention of students and volunteer tutors, there has been little tangible evidence either within CFL's program or in the field in general. It has been stated: "Understanding attrition and retention can help us ascertain ways to improve the situation, and prediction studies may allow us to identify dropout-prone students before it is too late to help them." (Lenning, 1982, p.35).

CFL, the oldest and largest adult literacy organization in Pennsylvania was founded in 1968. The program initially emphasized individualized tutoring by volunteers but in recent years has included classes taught by professional teachers which currently serve approximately half of the students at CFL. The program also serves such special populations as workforce literacy, homeless, mentally handicapped, and substance abuse populations, and some GED preparation. The majority of CFL service is provided in community sites. CFL has over 95 sites throughout Philadelphia including libraries, churches, community centers, public schools, mental health centers, homeless shelters, and businesses. Sevice is divided by geographic area of Philadelphia and each area is overseen by a coordinator who interviews students and matches them with the appropriate service (class instruction, one to one tutoring or referral to another agency). The program emphasizes adult literacy with a focus on learner's goals. CFL served over 1,500 students in 1989 and has records in its data base for students and tutors from 1985 through 1989, with demographic, assessment, and attendance information on these individuals. Anecdotal information is also available in the form of

initial, ongoing and exit interview notes, and staff logs. Situated within a complex urban environment, CFL finds itself uniquely suited to address the concerns of retention with particular attention to this context.

Objectives

The objectives of this project, as listed in the initial proposal are:

1. to conduct exploratory analysis of the existing data on patterns of attendance, hours of instruction and reentry, and demographic characteristics of the student and tutor population as found in the existing data,

2. to create working definitions of retention and attrition for the context of an urban, goal-based, individualized, open entry/open exit ABE program using the exploratory research, CFL's anecdotal information, and existing definitions,

3. to form research questions regarding the variables to be considered based on the results of the exploratory research, CFL staff experience, information available from interviews with students, staff logs, and discussions with students and tutors,

4. to conduct statistical analysis, resulting in statistical tables of variables affecting retention as found in the existing data,

5. to interpret statistical analysis results and draw implications for program development,

6. to produce a final report to be disseminated statewide, documenting the issues, process, results and recommendations for program improvement.

Purpose

The purpose of this report is to fulfill objective 6 above by presenting the findings of the research study and the resulting program

implications. This report also presents the processes of the study and related resources as a guide to future research efforts in this area. In this report, objectives 1 and 2 are combined and discussed in Chapter Three, as the exploratory analysis was used to create the working definitions. Objective 3 will also be discussed in Chapter Three, as it was met in connection with objectives 1 and 2. Objectives 4 and 5 are each discussed in their own chapters. The final chapter includes comments on objective 6.

Audience

The audience for whom this report was prepared includes literacy programs statewide which will receive this summary of the project including a detailed discussion of the issues, process, results and recommendations for improving retention in adult literacy programs. The project is also anticipated to be of use to other state and local adult education agencies desiring to conduct similar studies. Working definitions, variables, and a summary of the research process are presented and therefore are available to inform ongoing dialogue and research about retention in adult literacy. It is hoped that the working definitions, and key variables determined in this study may stimulate some standardization within the field of adult literacy by providing direction on the kinds of data that are important to collect and how to organize it. Lastly, CFL as an agency will benefit from participation in this process and from the implications for program improvement that are directly applicable to its ongoing operations.

The Study

The study, conducted from July 1989 through June 1990, involved participation from several staff at CFL, including educators, program administrators, and graduate student researchers, as well as staff at Research for Better Schools (RBS). RBS is a non-profit research and development firm serving as the Mid-Atlantic Regional Educational Laboratory for the U.S. Department of Education. CFL enlisted the assistance of RBS primarily to access to their research expertise and their Digital VAX computing facilities. (See acknowledgements for complete list of involved individuals.)

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CHAPTER TWO - BACKGROUND OF THE STUDY AND PROCEDURE

The Problem

Retention is a crucial issue in ABE programs, as Balmuth (April 1988, p.620) concludes: "High rates of absenteeism and dropout plague ABE programs everywhere." Research concludes that there is a direct relationship between attendance/retention and achievement of literacy skills (New York State ABE study, 1968; August and Havrilesky, 1983). And as Darkenwald (1981, p.2) states: "Dropout...entails cost to individual dropouts, to adult education agencies, and sometimes to an organization or to society." It is therefore of utmost importance to investigate the issue of retention and develop options for program improvement.

Addressing the issue of retention, however, is problematic since common notions of retention and attrition are based on traditiional school models with a standard curriculum, delivered in a class setting, within a structured semester (See appendix 2 for examples of current definitions). In CFL's program, as in many adult literacy programs nationwide, adults enter at various points in the year, work on an individual, goal-based curriculum and continue until they have completed their goals (including referral to other programs), often being interrrupted or complicated by adult responsibilities such as work or family. Tinto (1982, p.3), with reference to adult education, asserts: "The field of dropout research is in a state of disarray, in large measure because we have been unable to agree about what behaviors constitute an apppropriate definition of drop out." He adds: "The simple act of leaving an institiution may have multiple and quite disparate meanings to those who are involved in or are affected by

that behavior." (p.4). Therefore, working definitions of retention and attrition need to be created to facilitate on-going and effective discussion within the field of adult literacy. Only when these working definitions have been created can retention and attrition be meaningfully investigated, and recommendations for program improvement be made.

Addressing issues of retention and attrition in an urban adult literacy program is also difficult because of the lack of a related research base. Much of the research which is available relates to adult education often from the perspective of continuing eduation or GED preparation programs. While this research does shed light on adult literacy issues, there are many ways in which adult literacy is unique. Therefore, the field is in need of recent research conducted with this specific context in mind.

The extent of the problem of dropout in adult literacy programs, along with the lack of relevant, applicable definitions for retention and attrition in adult literacy, and the lack of enough related research provided the backdrop and motivation for this study.

The Procedure

•Organizing the Data

The preparation for the study began with the organization of the data. Student and tutor data files were designed to include all relevant variables for the years 1985 through 1989. The files included mainly quantitative data that CFL routinely collects and submits to the Pennsylvania Department of Education and other funders annually. (See Appendix 2 for sample data files). The variables considered included: demographic data, as well as monthly and yearly attendance statistics.

(See Appendix 3 for a listing of the variables included and their definitions.)

Some important considerations must be taken into account when looking at the variables and data used in this study. There are limitations inherent in the nature of the study which have an impact not only on understanding the data in this sudy and therefore their implications, but also on plans for future inquiry. The considerations are as follows:

1. The data were collected as a routine procedure at CFL for program use and funding accountability and, therefore, were used in retrospect for this study. It is important to remember that the data were not collected specifically for the purpose of this study.

2. CFL only began to use a computer data management system in 1985, and so as a result, the consistency and accuracy of the data collection process has grown with the program and CFL's familiarization with the system. Both purposes for collection and the types of data requested have varied over the years to fit CFL's changing programs and needs.

3. Until recently CFL did not report end of year statistics on computer disk, but rather, on paper. This resulted in the lack of computer records for some data in some years. While complete data were submitted to the Pennsylvania Department of Education, it was not always on computer and therefore not all presently accessible by computer.

4. Much of the data collection process over the years has centered around the Pennsylvania Department of Education's requirements which also tend to change. The result might be a new code number for the same data, new divisions for a particular category, or new categories altogether. Also, there have been new contracts developed which have new requirements. These changes over the years rendered some categories of data unusable for this study, or required extensive recoding of data to achieve consistency across the sample.

Before presenting the data to Research for Better Schools (RBS), extensive clean-up was done on the data in an attempt to achieve

consistency across the years. During this phase of the process the data base for the five year period was found to be incomplete and inconsistent. Original data had been keyed into an IBM XT personal computer, possessing a 20 mega-byte hard drive. A considerable amount of time was necessary in "cleaning up" the records by changing erroneous codes and filling in missing data through the use of hard copy forms still available. Later, the improved data set was converted to five and a quarter inch diskettes and transferred to RBS for entry onto its Digital VAX system. Once the files were transferred to RBS much additional missing data and inconsistencies were found. After an extensive amount of recoding to improve the consistency of the data, it was in sufficient shape to undergo analysis.

It should be noted, however, that while inconsistencies and errors in coding of the data were corrected, and some hard copy records were used to improve completeness, there were considerable missing values in some fields in the data set. It appears that such missing data did not occur in a pattern or systematic fashion, and therefore it is unlikely from what we know at this point, that any bias has been introduced into the data set as a result of the missing data problem.

•Literature Review

A summary of current related research was helpful in the process of developing questions and selecting variables to be considered. As noted earlier, there is a lack of significantly related research, however, a brief review provides a helpful background for this study.

There is much concern presently in adult education with the high dropout rates associated especially with adult basic education programs.

Some of the complexity of discussing participation and persistence in adult education are due to the varying definitions of common terminology. First, since most adult education programs are nontraditional and oriented to adult needs and schedules, definitions often used which arise from a traditional school model are inappropriate. The variety of adult education contexts, however, increases the challenge of finding more appropriate definitions. As a result, most programs adopt their own definitions or those required by funders. For example, some theorists define participation simply as "registration in organized classes" (Cross, 1981, p.122), but this does not take into account individualized, goal-based, open entry/open exit ABE programs such as are common in Philadelphia. These complexities must be addressed and it is within these complexities that practioners and researchers must look at adult life experiences, development, and experience in education.

One theme found in the research regarding adult's experiences in education is the issue of conflicts. Miller's force field concept presents motivation as a result of negative and positive forces pressing against one another (Cross, 1981). If the negative forces outweigh the positive, the result will be little motivation to persist in educational programs. He suggests, for example, that early phases of adulthood are concerned with satisfying needs that are low in a hierarchy of basic survival needs, such as getting a job or starting a family, and these needs take precedence over interest in self-actualization. For example, Cross (1981, p.115) states: "The dropout rate of lower class males from job trainig programs is very high, suggesting that even when they know about learning opportunities and get far enough to enroll (presumably because, momentarily at least, the positive forces overcome the negative), negative forces in the culture

prevent continuation."

Another central theme to the consideration of adult development as it applies to participation and persistence is the issue of congruence, similiar to the force field concept. Boshier, in his extensive discussion of this issue states: "...participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self concept and key aspects...of the educational environment." (1973, p.260). When needs (self concept) and the educational environment are not congruent, participants drop out. The incongruities are thought to be additive in that the greater the total of the incongruities, the greater the possibility of not participating, or dropping out. As the model takes into account the role of self-concept, Boshier (1973) discusses motivation to participate in education as "growth-motivated" or inner motivation, vs. "deficiency-motivated" which is motivated by social/environmental pressures. He suggests that adults motivated by "deficiency" reasons are associated with "intra-self incongruence", resulting in dissatisfaction with the learning environment, and so potentially drop out. This is related to adult development in that "deficiency" reasons tend to be those associated with meeting basic survival needs. Work and educational activity are used to meet these needs and so adult life takes on this orientation, especially with regard to an individual's responsibilities at a given time. Boshier concluded that participants with a "deficiency" motivation for enrollment "were significantly more inclined to drop out than persons enrolled for 'growth' motives" (1973, p.266).

Self-esteem is also a crucial factor, as those with negative views of themselves are less likely to expect success (Cross, 1981) and less

likely to experience congruence with the educational environment (within Boshier's concept of congruence). This has significant implications for participation and persistence. Hayes and Darkenwald (1988) found the factor of low self confidence to be a particularly prominent deterrent to participation for low literate aduts. A typoloy of low literate adults formulated by Hayes (1988) based on the adults' self perception of deterrents to participation also placed low self esteem as a priority. The recent Philadelphia Literacy Study concluded that low literate adults have "poor opinions of their schooling and of themselves as learners." (Neubauer and Dusewicz, 1988, p.17). These research findings support that adult development as it relates to self-perception significantly affects participation and persistence.

The importance of age with regard to participation and persistence is supported by Anderson and Darkenwald (1979) who found age to be the second most powerful predictor of participation, with younger adults more likely to enter programs. The individuals of greatest need in the Philadelphia Literacy Study (Neubauer and Dusewicz, 1988, p.54) tended to be older adults. While older adults may not be as prone to participate (Cross, 1988; Hayes and Darkenwald, 1988), It was found that in a volunteer based tutoring program older students dropped out less than younger students. (Heathington, et.al., 1984, p.21). It was concluded that due to older adults' placement in the life cycle they have less financial responsibilities and fewer family respnsibilities which might deter them from being available to meet with a tutor.

It is also important to consider the theme of change or transition as it relates to adult development, participation and persistence in education. Fiske (1980) considers general change in our society which

impacts change in "hierarchies of commitment". Her paradigm suggests clusters of commitment which evidence themselves in various changing settings of adult life. Change, then, occurs within areas such as: relationships, ethical alliances, work, and survival or well being (Fiske, 1980, p.245). These types of commitment appear to be linked, according to Fiske, with transition points. Adult education must be responsive to adults' commitment in an effort to affect participation and persistence.

Miller (1978, p.51) states: "Life-phase theorists make an important contribution to an analytic perspective on adult learning by dispelling the notion that adulthood is a stable state in which disequalibrium and distress are always individual matters unrelated to natural or predicatable life transitions." Research on deterrents to basic education done by Hayes and Darkenwald (1988) suggest a need to combine findings on barriers with identification of the life events which encourage motivation, opportunities, and needs for learning.

When considering the importance of life transition, there is a need to discuss the role of adults' goals and needs with regard to participation and persistence in education. This is perhaps the most influential of all the themes and one in which all the others are interwoven. Anderson and Darkenwald (1979, p.27) found that the most powerful predictor of persistence is satisfaction with the learning activity in terms of its "helpfulness" in meeting one's objective. Job motivation was stated as the reason subjects gave for being most likely to persist. In a recent study of atttrition in an ABE program in Pittsburgh, 15% of respondents (dropouts) said working on a "self-designed goal or material" would have kept them in the program (Bean, et.al., 1989, p.3). Garrison's study (1985) concluded that dropouts thought their courses were more relevant and

they had more goal clarity than the persisters. They also had lower academic ability so Garrison suggests (1985, p.31) they may have had unrealistic expectations. Despite incongruities in the research, it is clear that for adults, the relevance of the course to their day to day goals and needs is central.

Much of this research presents support for the effect of adult experience on education and provides a helpful background of understanding. However, there is still a great need for these theories to be investigated more thoroughly and for current research to address specific variables which affect an adult learner's experience, particularly within the context of urban, individualized, goal-based, open entry/open exit programs.

•Staff Interviews

At the start of the study staff at CFL were asked to engage in brief individual interviews with the project director in an effort to determine what questions were believed to be important, to collect staff intutitions about what affects retention and attrition, and to collect considerations for the working definitions. Much anecdotal information was available as a result of these interviews for use in this study to initiate research questions and to evaluate and interpret statistical analysis results. During CFL's over 20 years of service in the field of adult literacy, a great bank of valuable experience and knowledge has been built up, and the staff interviews were an effort to tap into this resource.

All staff were invited to participate, and those who were available arranged to meet with the project director. The interviews were informal and included questions such as:

*"How would you define 'dropout'?"
*"What do you think causes a student to drop out?
*"What do you think causes a tutor to leave before completing his/her commitment?"
*"Describe for me some one who you feel was a "dropout" and someone you feel completed the program."

These interviews were used to develop the research questions. Later, when analyses were evaluated the project director was able to refer to staff comments in an effort to interpret the results and work together with many of the same staff on program implications.

Research Questions and Analysis

After the above phases were completed, RBS conducted several analysis cycles with CFL responding to the results and generating new questions for further analysis. This aspect of the study is elaborated in Chapters 3, 4 and 5.

CHAPTER THREE - RESEARCH QUESTIONS AND WORKING DEFINITIONS

Ojectives

The first three objectives of the project included: conducting an exploratory analysis of the existing data, creating working definitions of retention and attrition, and forming research questions. These were so intertwined and integrally related to the exploratory analysis that they are discussed here in a single chapter. While the objectives of the study were met, it is clear that there is still much to be learned with regard to student and tutor retention, and therefore, there are questions left to be answered and variations left to be considered. The discussion of the objectives and how they were addressed in the study begins in this chapter with students and is then followed by a consideration of data on tutors.

Students

•Research Questions

The research questions used in the study included those generated from the exploratory analysis and from staff interviews, relevant literature, and discussions. The origin and rationale for each of the questions have been described above. The questions were as follows:

1. Characteristics of Students - What are the characteristics of students involved in literacy programs conducted by the Center for Literacy?

2. Definition of "Dropout" - Given the vagueries of attendance in an open entry-open exit program, what could be considered a useful definition of a program "dropout" as compared with active and inactive "non-dropouts"?

3. Characteristics of Dropouts - What are the characteristics of "dropout" students?

4. Characteristics of Non-Dropouts - What are the characteristics of "non-dropout" students?

5. Characteristics of Dropouts vs. Non-Dropouts - What characteristics distinguish the dropouts from the non-dropouts?

6. Student Residence and Attendance - For all students, how is attendance affected when students' residence area and instruction area are the same as compared to when they are different?

7. Employment and Attendance - For employed students, how is attendance affected by all relevant student characteristics?

8. Unemployment and Attendance - For unemployed students, how is attendance affected by all relevant student characteristics?

9. Responsibility and Attendance - Do students with high levels of responsibility (married, employed, with dependents) tend to have lower attendance than those with a lower level of responsibility?

10. Education Level and Attendance - What is the relationship between last grade completed (education level) with attendance?

11. Single Mothers and Attendance - Do single mothers with children tend to have lower attendance than other students?

12. Range of Attendance - What is the range of attendance among classes?

13. Poverty and Attendance - What is the effect of poverty related variables on attendance (Neighborhood Assistance Act eligibility, public assistance)?

14. Special Programs and Attendance - What is the level of attendance in the Special Populations programs (Horizon House (mental health and substance abuse programs), ESL, Workforce literacy and

Homeless populations)?

15. Education Level by Reading Level and Attendance - What is the relationship between educational level attained and reading level assignment on attendance?

16. Student Characteristics that Predict Attendance - What combination of student characteristics best predicts atttendance and dropping out?

After questions 1 and 2 were answered, the rest of the questions were generated. While this is hardly a complete list of questions that could be asked regarding student retention and attrition, the above were selected based on staff experience and areas of potential interest. Questions 1 and 2 will be discussed here, and the results of the others will be discussed in Chapter Four.

•Analytic Approach

The analytic approach used in addressing the above research questions ranged from simple descriptive statistics of the mean and standard deviation variety, to more complex correlational analyses, including multiple regression, and finally inferential statistical techniques such as the analysis of variance and multiple comparison tests. Figure 1 below describes the analytic approach for each research question.

Figure 1
Research Questions and Analytic Approach

Research Questions	Analytic Approach
1. Characteristics of Students	Frequencies, Percentages
2. Definition of "Dropout"	Frequencies, Percentages

3.	Characteristics of Dropouts	Frequencies, Percentages
4.	Characteristics of Non-Dropouts	Frequencies, Percentages
5.	Characteristics of Dropouts vs. Non-Dropouts	Analysis of Variance, Multiple Comparisons
6.	Student Residence and Attendance	Analysis of Variance, Multiple Comparisons
7.	Employment and Attendance	Analysis of Variance, Multiple Comparisons
8.	Unemployment and Attendance	Analysis of Variance, Multiple Comparisons
9.	Responsibility and Attendance	Analysis of Variance
10.	Education Level and Attendance	Analysis of Variance, Multiple Comparisons
11.	Single Mothers and Attendance	Analysis of Variance
12.	Range of Attendance	Means, Standard Deviations
13.	Poverty and Attendance	Analysis of Variance
14.	Special Programs and Attendance	Means, Standard Deviations
15.	Education Level by Reading Level and Attendance	Analysis of Variance, Multiple Comparisons
16.	Student Characteristics that Predict Attendance	Multiple Regression

•Program Description (Exploratory Analysis)

Data from CFL on participating students was compiled over a five year period from 1985 through 1989. Table 1 shows the results of this compilation in terms of the number of participating students for each year, as well as the characteristics of these students demographically and programatically. As can be seen in Table 1, a total of 3,550 students participated over the five-year period. Please note that for a variety of reasons the frequencies presented for individual years from 1985 to 1989 do not sum to the total indicated in the 1985-89 column. This is principally due to the fact that the counts for the individual years use the records for students generated during those individual years, whereas the total for 1985-89 uses only the latest available record for the individual student. Also since some characteristics change over time, the latest records may not reflect the same characteristics as the earlier ones for the same individuals.

The total number of students served has expanded from 438 in 1985 to over 1,500 in 1989. These figures, it should be noted, are based on calendar years, and thus differ from figures submitted to the state and federal government for program operations which are based on a fiscal year running from July 1 to June 30. Figures here may also differ from those reported by CFL elsewhere because some students are served under other than state contracts. Several statistical results based on this compilation are worthy of particular note. In terms of the sex variable, slightly more females than males participated in CFL programs over the five year period. This represents a shift from the early years of CFL operation. In 1985 and 1986, there were slightly more males than females participating. This changed with programming in 1987. For the

last three years, more females than males participated. In terms of the level variable, by far the predominant level of literacy functioning is that of 0-4. The 5-8 level is a distant second in terms of number of students, followed by those students who may be classified as ESL. However, the distance in number of students has narrowed in the last year between the 0-4 and 5-8 levels. In terms of program setting, slightly more students have been enrolled in classes than enrolled on an individual basis for tutoring. The percentage of students in class versus individual tutoring has varied from 1985 through 1989, with no consistent distances favoring one type of setting as the predominant. The age of students has ranged from 16 to 83 for the program. Approximately half of the students were under the age of 35, while 11% were 55 years of age or over. Approximately 1/3 of the students were married. Eligibility for Neighborhood Assistance Act (NAA) funding involved slightly over half of the students. In terms of ethnic membership, most of the students who were served were African-American, followed by White, Hispanic, and Asian. Approximately half of the students had dependents, with the number of dependents ranging from one to thirteen. With regard to employment status, approximately half of the students indicated that they were employed, and of those that were not employed, most were looking for employment. In terms of education level attained, nearly half of the students had a ninth grade education or less while the other half had greater than a ninth grade education. In terms of public assistance, slightly more than a third of the students were receiving public assistance. Only a small percentage of the students indicated that they were handicapped. With respect to area in which the student was instructed and area in which the student resided, the last variables

included in Table 1 show for each geographic area in the city in which the program operates, the number and percent of students enrolled in the program in that area followed by the number and percent of students that reside in that area.

Table 2 shows the number of valid and missing cases included in the final student data base. It should be noted that some of the variables have particularly high levels of missing data. This should be taken into consideration when viewing and interpreting the results. With the numbers of valid cases included in the data base there is little concern that errors may be introduced into the results due to the insufficiency of size and sample. However, the large numbers of missing cases could be a problem if bias has been introduced into the data base as a result of nonresponse on those variables.

Table 1

STUDENT CHARACTERISTICS

	1985-89	1985	1986	1987	1988	1989
Number of Students	3,550	438	885	1,380	1,330	1,517
STUDENTS						
Sex						
Female	1,838 (55%)	201 (46%)	273 (47%)	733 (53%)	769(58%)	845 (57%)
Male	1,505 (45%)	237 (54%)	306 (53%)	638 (47%)	561(42%)	648 (43%)
Level						
0-4	1,783 (53%)	315 (77%)	484 (59%)	841 (61%)	770 (58%)	660 (48%)
5-8	933 (28%)	55 (13%)	123 (15%)	290 (21%)	278 (21%)	524 (38%)
9-12	13 (0%)	0	2 (0%)	0	0	13 (1%)
ESL	456 (14%)	38 (9%)	214 (26%)	249 (18%)	204 (15%)	27 (2%)
GED	47 (1%)	1 (0%)	1 (0%)	0	78 (6%)	22 (2%)
ESL-1	117 (3%)					117 (9%)
ESL-2	10 (0%)					10 (0%)
ESL-3	1 (0%)					1 (0%)
Setting						
Class	1,939 (55%)	170 (39%)	498 (58%)	728 (53%)	693 (52%)	723 (48%)
Individual	1,598 (45%)	268 (61%)	367 (42%)	652 (47%)	637 (48%)	790 (52%)
Age						
Range	16-83	19-73	16-75	17-82	16-83	16-83
Under 25	13%	10%	13%	12%	10%	11%
Under 35	49%	45%	47%	46%	44%	45%
Under 45	75%	76%	72%	72%	70%	72%
Under 55	92%	94%	92%	90%	89%	89%
55 and Over	8%	6%	8%	10%	11%	11%
Marital Status						
Married	848 (33%)	113 (39%)	152 (37%)	367 (36%)	347 (35%)	446 (31%)
Single	1,181 (46%)	129 (44%)	182 (44%)	438 (43%)	359 (36%)	644 (47%)
Divorced	453 (18%)	43 (15%)	61 (15%)	178 (17%)	177 (18%)	246 (18%)
Widowed	88 (3%)	8 (3%)	17 (4%)	34 (3%)	43 (4%)	55 (4%)

STUDENT CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
NAA						
Eligible	767 (52%)	126 (55%)	171 (57%)	319 (53%)	258 (47%)	379 (51%)
Ineligible	696 (48%)	102 (45%)	130 (43%)	283 (47%)	292 (53%)	360 (49%)
Ethnic Membership						
Indian	4 (0%)	0	0	0	0	4 (0%)
Asian	176 (6%)	24 (7%)	8 (2%)	92 (8%)	81 (7%)	66 (5%)
Black	1,639 (58%)	236 (70%)	305 (72%)	638 (56%)	574 (53%)	827 (60%)
Hispanic	434 (15%)	22 (7%)	12 (3%)	178 (16%)	198 (18%)	185 (13%)
White	568 (20%)	54 (16%)	98 (24%)	224 (20%)	239 (22%)	294 (21%)
Dependents						
Range	0-13	0-11	0-11	0-13	0-7	0-7
No Dependents	1,284 (50%)	143 (50%)	201 (52%)	498 (50%)	479 (52%)	719 (53%)
Dependents	1,273 (50%)	142 (50%	189 (48%)	500 (50%)	446 (48%)	646 (47%)
Employment Status						
No	14 (1%)	1 (0%)	5 (1%)	0	1 (0%)	10 (1%)
No, Looking	979 (37%)	114 (39%)	138 (34%)	362 (36%)	337 (35%)	488 (35%)
No, Not Looking	412 (16%)	23 (8%)	46 (11%)	192 (19%)	165 (17%)	219 (16%)
Yes	1,218 (46%)	156 (53%)	219 (54%)	451 (45%)	468 (48%)	665 (48%)
Education						
0-3	242 (9%)	40 (14%)	52 (13%)	117 (12%)	122 (12%)	128 (9%)
0-6	593 (23%)	92 (33%)	118 (30%)	275 (27%)	272 (28%)	310 (23%)
0-9	1,274 (49%)	182 (65%)	240 (61%)	568 (56%)	509 (52%)	638 (47%)
0-11	2,325 (89%)	238 (84%)	339 (87%)	922 (91%)	823 (84%)	1,261 (92%)
13-18	103 (4%)	5 (2%)	0	5 (0%)	6 (1%)	96 (7%)
cb	8 (0%)	1 (0%)	1 (0%)	6 (1%)	2 (0%)	0
cm	2 (0%)	0	0	1 (0%)	2 (0%)	0
cs	13 (0%)	1 (0%)	0	12 (1%)	6 (1%)	0
hs/12	28 (1%)	36 (13%)	36 (9%)	0	0	0
ha	88 (3%)	0	0	26 (3%)	98 (10%)	3 (0%)
sp	57 (2%)	0	14 (4%)	41 (4%)	42 (4%)	9 (1%)
DEG						
MODEG						

STUDENT CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
Public Assistance						
No	1,641 (63%)	205 (75%)	292 (75%)	638 (63%)	618 (63%)	874 (64%)
Yes	971 (37%)	67 (25%)	95 (25%)	378 (37%)	363 (37%)	499 (36%)
Handicapped						
No	2,459 (95%)	246 (90%)	369 (94%)	950 (96%)	934 (96%)	1,288 (94%)
Yes	139 (5%)	26 (10%)	25 (6%)	41 (4%)	34 (4%)	89 (6%)

STUDENT CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
Area/Res						
cc	348(10%)/ 54(2%)	14(3%)/ 4(1%)	29(3%)/ 8(2%)	162(12%)/25(2%)	91(7%)/18(2%)	194(13%)32(2%)
n	407(12%)/746(30%)	18(4%)/46(15%)	58(7%)/64(17%)	135(10%)/280(28%)	188(14%)/262(29%)	171(11%)/411(32%
ne	193(5%)/245(10%)	41(9%)/22(7%)	67(8%)/32(8%)	78(6%)/89(9%)	62(5%)/110(12%)	68(4%)/120(9%)
ne2	176(5%)/120(5%)	0/14(5%)	0/23(6%)	74(5%)/44(4%)	111(8%)/53(6%)	102(7%)/60(5%)
nw	361(10%/267(11%)	104(24%)/48(16%)	156(18%)/65(17%)	173(13%)/108(11%)	112(8%)/78(9%)	107(7%)/114(9%)
s	219(6%)/330(13%)	0/48(16%)	13(1%)/73(19%)	71(5%)/135(13%)	105(8%)/113(12%)	130(9%)/162(13%)
sc	55(2%)/0	66(15%)/0	106(12%)/0	--------	--------	--------
w	633(18%/598(24%)	117(27%)/94(32%)	184(21%)/103(27%)	250(18%)/249(25%)	220(17%)/215(24%)	274(18%)/315(24%
w2	--------	--------	84(10%)/2(1%)	--------	--------	--------
wg	191(5%)/36(1%)	53(12%)/2(1%)	--------	76(6%)/19(2%)	83(6%)/16(2%)	63(4%)/16(1%)
h	313(9%)/0	--------	37(4%)/0	166(12%)/0	138(10%)/0	105(7%)/0
e	382(11%)/0	12(3%)/0(0%)	118(14%)/0	152(11%)/0	119(9%)/0	115(8%)/0
sat	17(0%)/0	10(2%)/0	15(2%)/0	9(1%)/0	5(0%)/0	1(0%)/0
su	0/124(5%)	0/19(6%)	0/10(3%)	0/52(5%)	0/46(5%)	0/63(5%)
wf	195(6%)/0	--------	--------	34(2%)/0	96(7%)/0	146(10%)/0
hml	41(1%)/0	--------	--------	--------	--------	41(3%)0

TABLE 2

VALID & MISSING CASES FOR STUDENT CHARACTERISTIC VARIABLES

YEARS	1985-1989 (N=3550)		1985 (N=438)		1986 (N=885)		1987 (N=1380)		1988 (N=1330)		1989 (N=1517)	
CHARACTERISTICS	V	M	V	M	V	M	V	M	V	M	V	M
SEX	3343	207	438	0	579	306	1372	8	1330	0	1493	23
LEVEL	3360	190	409	29	823	62	1380	0	1330	0	1374	143
SETTING	3537	13	438	0	865	20	1380	0	1330	0	1513	4
AGE	2739	811	359	79	497	388	1084	296	993	337	1350	167
MARITAL STATUS	2630	920	293	145	412	473	1020	359	984	346	1361	156
NAA	1463	2087	228	210	301	584	778	602	550	780	739	778
ETHNIC MEMBERSHIP	2821	729	336	102	423	462	1132	248	1093	237	1376	141
DEPENDENTS	2616	934	285	153	397	488	1001	379	986	344	1369	148
EMPLOYMENT STATUS	2624	926	294	144	409	476	1006	374	974	356	1382	135
EDUCATION	2624	926	282	156	398	487	1013	367	979	351	1369	148
PUBLIC ASST.	2616	934	272	166	387	498	1018	362	986	344	1374	143
HANDICAPPED	2599	951	272	166	394	491	992	388	970	360	1377	140
AREA	3531	19	435	3	867	18	1380	0	1330	0	1517	0
ZIP	2520	1030	298	140	380	505	1001	373	911	419	1293	224

•Working Definitions

In an urban, open entry/open exit, goal based, adult literacy programs such as CFL, the term "dropout" has little of the meaning attributed to it in the traditional educational setting. Students attending CFL programs generally enter or enroll with a certain goal in mind and once achieving that goal, exit from the program. They may, then, at some subsequent point in time, reenter to achieve an additional literacy goal. There are some students, however, who may enter with a particular goal, then leave before completing that goal. Also, given the nature of adult responsibilities, there are students who may need to take breaks in their attendance at various points to meet demands of family, community or job. Since there are different types of attendance that students exhibit it is difficult to distinguish between students who are actively engaged in the program, students who are inactive or intermittently engaged in the program on a continuous basis, and finally, those students who enroll in the program but drop out prior to achievement of any meaningful goal. It is important, therefore, to distinguish the "drop outs" among the students. Particularly problematic in the analysis was that students no longer active on a continual basis within the program may leave behind little information as to whether or not they have attained their initial goal and whether or not they intend to become active again at some future time.

Extensive program analysis of student attendance patterns was undertaken to discern typical patterns of adult attendance which definitions should take into consideration. A program description was presented in which months and hours of attendance were compiled for all students within the data base. In addition, a separate analysis of "gaps" in program participation was done, analyzing points where students had one

to five months consecutively with zero hours of attendance before resuming participation. Based on the exploratory analysis the following conditions emerged and were set to define drop out:

1. Four or more continuous months with zero hours of attendance

Analysis of those students who leave the program and return indicated that those who return tend to do so only up to three months of being out of the program.

2. Attended less than 21 total hours of instruction

Not only did this analysis show the attendance patterns of those who leave and return to cluster around 21 hours, but also a recent CFL study indicated that progress is noted at 21 hours of instruction.

3. No status indication of "completion"

Regardless of the first two categories, if a staff member had listed a student as a "completion", indicating goal completion or program completion, then the student was not included in the drop out sample (this was, however, seldom the case).

Any student who passed through all three of these screens in this order was included in the dropout sample. A total of 1,047 students in the data base over the five year period were identified as dropouts, while 2,503 were identified as non-dropouts (please note discussion of complexities of reporting retention/completion rates, found in Chapter Six of this report). In addition to the distinction between drop outs and non-dropouts, it was deemed useful to designate a group of "high attenders" in an attempt to accentuate diffferences between the dropout group, which was characterized by low attendance, and the group characterized by the highest attendance. Therefore, a subgroup was selected from the group of non-dropouts which was comparable in size to the group of dropouts (1,038). This subgroup was found to be comprised of

those students who had attained 50 or more total hours of instruction.

Despite all the variables used in dividing students into dropout, non-dropout and high atttender groups, it is clear that a dropout vs. non-dropout status is reflected in total hours of attendance. In other words, while the definitions include total hours of attendance, consecutive months of attendance, and final status recorded, the primary difference between the dropout and non-dropout sample was hours of attendance. There are no students with fewer than 23 total hours in the non-dropout sample, less than 21 total hours marks a dropout status, and no students in the non-dropout subset of high attenders had 50 or more total hours. Therefore, in addition to the division into dropout, non-dropout and high attender groups, research questions investigating "retention" involved comparisons based on the range of total hours of attendance, assuming lowest total hours of attendance to be lowest retention and highest total hours of attendance to be highest retention. All of the variables were analyzed with respect to their affect on attendance.

Tutors

•Research Questions

Because of the simpler nature of the tutor data base, and the less complex nature of the problems and issues facing literacy programs with respect to tutors, fewer research questions were posed in this area. For the questions that were posed, exploratory analyses were limited by time constraints as well. The questions were as follows.

1. Characteristics of Tutors - What are the characteristics of tutors involved in literacy programs conducted by CFL?

2. Definition of "Dropout" - Given the nature of voulunteer participation in the program (as a tutor), what could be considered a useful definition of a program "dropout"

3. Characteristics of Dropouts - What are the characteristics of tutors who drop out?

4. Characteristics of Non-Dropouts - What are the characteristics of tutors who do not drop out?

•Analytic Approach

The analytic approach used in addressing each of the four research questions concerning tutors consisted of descriptive statistical analyses. This included use of frequencies and percentages for different sub groups of the overall tutor population.

•Program Description

Table 3 shows the frequencies and percentages of tutors across all five years covered by the data base and the characteriestics of those tutors. As with the student data presented earlier, please note that for a variety of reasons the frequencies presented for individual years from 1985 to 1989 do not equal the total indicated in the 1985-89 column. This is principally due to the fact that the counts for the individual years use the records for students generated during those individual years, whereas the total for 1985-89 uses only the latest available record for the individual tutor. Also since some characteristics change over time, the latest records may not reflect the same characteristics as the earlier ones for the same individuals.

As can be seen in Table 3, many more females than males

volunteered to be tutors. Approximately 75% of the tutors have been female, and 25% male. This has been consistent throughout the past five years. The exception was the 1986 year, where no data were available. In terms of level of literacy, the tutors were used exclusively for the 0-4 and 5-8 level, the overwhelming majority being used for the 0-4 level. Exceptions to this may have occurred in 1985 and 1986, though no data appear to be available for the 0-4 level variable in these years. In terms of setting, it can be seen that tutors were used almost exclusively for individual settings rather than class settings. The grand total of 1,309 tutors in the five year period from 1985-1989 shows that only nine of these tutors were used in class settings.

The age range of tutors is also indicated in Table 3. It shows that the distribution in age of tutors was a fairly flat one with a modal value somewhere within the 25-34 age range. The percentages of tutors at each of the five age ranges appears to be fairly consistent across the five years represented in the data base. For marital status, data are missing from years 1986 through 1988. Data from the two years available indicate that nearly 70% of the population of tutors are either single, separated, divorced, or widowed, with only 30% being married. As far as employment status is concerned, by far the vast majority of tutors were employed (approximately 76% across the five years of the study, however data appear to be incomplete for 1985 and missing for 1986 in this variable). Table 3 also shows the distribution, for each year and for the entire period, of the tutors by education level and by ethnic membership. For these variables, data are missing for 1986, but according to available data the vast majority of tutors are White (73%). The second largest group by far is African-American (22%). The table also shows the program

area for which the tutor worked as well as the area in which the tutor resided. These are separated by a slash (/) in the table.

Table 3

TUTOR CHARACTERISTICS

	1985-89	1985	1986	1987	1988	1989
Numbers of Tutors	1,346	143	262	469	546	687
TUTORS						
Sex						
Female	965 (76%)	107 (78%)	(%)	343 (75%)	403 (75%)	516 (77%)
Male	301 (24%)	31 (22%)	(%)	116 (25%)	136 (25%)	15(23%)
Level						
0-4	601 (79%)	(%)	(%)	307 (82%)	342 (82%)	293 (76%)
5-8	161 (21%)	55 (13%)	66 (18%)	66 (18%)	74 (18%)	95 (24%)
9-12						
ESL						
GED						
ESL-1						
ESL-2						
ESL-3						
Setting						
Class	9 (1%)	1 (1%)	2 (1%)	9 (2%)	4 (1%)	(%)
Individual	1300 (99%)	120 (99%)	220 (99%)	457 (98%)	540 (99%)	669 (100%)
Age						
Under 25	189 (17%)	18 (14%)		44 (12%)	70 (15%)	104 (18%)
25-34	399 (36%)	56 (43%)		136 (36%)	166 (36%)	194 (33%)
35-44	200 (18%)	15 (11%)		82 (22%)	80 (17%)	109 (18%)
45-54	127 (12%)	16 (12%)		43 (11%)	56 (12%)	79 (13%)
55 and Over	185 (17%)	26 (20%)		75 (20%)	90 (19%)	104 (18%)
Marital Status						
Married	188 (30%)	5 (13%)	(%)	(%)	(%)	183 (31%)
Single	346 (55%)	31 (82%)	(%)	(%)	(%)	316 (54%)
Divorced	65 (10%)	2 (5%)	(%)	(%)	(%)	63 (11%)
Widowed	27 (4%)	(%)	(%)	(%)	(%)	27 (5%)

TUTOR CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
Employment Status						
No	179 (18%)	3 (8%)	-------	31 (9%)	78 (17%)	123 (21%)
No, Looking	1 (0%)	-------	-------	2 (1%)	1 (1%)	------
No, Not Looking	67 (7%)	-------	-------	57 (16%)	27 (6%)	24 (4%)
Yes	769 (76%)	29 (74%)	-------	264 (75%)	354 (77%)	442 (75%)
Education						
No hs	20 (2%)	-----	-----	6 (2%)	9 (2%)	15 (3%)
cb	395 (40%)	11 (46%)	-----	122 (35%)	169 (38%)	246 (42%)
cm	10 (1%)	7 (29%)	-----	2 (1%)	1 (0%)	----
cs	17 (2%)	5 (21%)	-----	12 (3%)	----	----
hs	154 (15%)	1 (4%)	-----	0	51 (15%)	93 (16%)
ma	154 (15%)	0	0	59 (17%)	59 (17%)	89 (15%)
sc	232 (23%)	0	14 (4%)	92 (27%)	92 (27%)	128 (22%)
ts	4 (0%)			1 (0%)	1 (0%)	3 (1%)
ge	6 (1%)		1 (0%)	3 (1%)	5 (1%)	
do	1 (0%)					1 (0%)
na	1 (0%)					
Ethnic Membership						
Indian	1 (0%)				1 (0%)	1 (0%)
Asian	13 (2%)			2 (1%)	4 (1%)	10 (2%)
Black	129 (22%)	4 (11%)		114(32%)	106 (24%)	129 (22%)
Hispanic	9 (1%)	5 (34%)		2 (1%)	4 (1%)	7 (1%)
White	737 (73%)			232 (66%)	327 (74%)	441 (75%)

TUTOR CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
Area/Res						
c	64(5%)/----			86(19%)/----	----/65(20%)	
cc	127(10%)/171(15%)	----/17(12%)		-----/52(12%)	----/78(16%)	127(19%)/94(16%)
n	77(6%)/83(7%)	----/ 7(5%)		26(6%)/32(7%)	40(12%)/46(9%)	40(6%)/43(7%)
ne	87(7%)/88(8%)	----/ 5(4%)	24(10%)/----	26(6%)/21(5%)	26(6%)/21(5%)	51(8%)/58(10%)
ne2	143(11%)/105(9%)	----/ 5(4%)		43(10%)/44(10%)	43(10%)/44(10%)	89(13%)/60(10%)
nw	192(15%)/89(15%)	29(20%)/26(19%)	55(22%)/----	82(18%)/78(18%)	82(18%)/65(13%)	88(13%)/89(15%)
s	80(6%)/117(10%)	-----/14(10%)		------/39(9%)	80(12%)/39(9%)	-------/63(10%)
sc	86(7%)/----	41(29%)/----	82(33%)/----	18(4%)/----	18(4%)/----	---------
w	400(32%)/266(23%)	72(50%)/52(37%)	89(36%)/----	165(37%)/98(23%)	26(8%)/96(19%)	187(28%)/120(20%)
sat	1(0%)/-----	1(1%)/-----				
su	/155(13%)	-----/18 (13%)				
pp	6(0%)/-----					6(1%)/-----

TUTOR CHARACTERISTICS (continued)

	1985-89	1985	1986	1987	1988	1989
Ethnic Membership						
Indian	1 (0%)				1 (0%)	1 (0%)
Asian	13 (2%)			2 (1%)	4 (1%)	10 (2%)
Black	129 (22%)	4 (11%)		114(32%)	106 (24%)	129 (22%)
Hispanic	9 (1%)	5 (34%)		2 (1%)	4 (1%)	7 (1%)
White	737 (73%)			232 (66%)	327 (74%)	441 (75%)

•*Working Definitions*

Because of the voluntary nature of the tutoring position, it is difficult to hold tutors to a definite service commitment in terms of numbers of hours or numbers of months. Nevertheless, the investment in training made by CFL for each tutor and respect for the students with whom the tutors will work requires that some assurances be given by the tutor as to the extent of future service that can be expected in a tutoring capacity. In recent years, CFL has been requesting a commitment of at least six months of service from each of its tutors. Since this was a commitment to be made prior to training, it seemed only natural that this set guideline be used as the major criterion for designation of tutors as dropouts or non-dropouts. Thus, tutors who did not engage in tutoring for at least six months, regardless of level of intensity, were designated as tutor dropouts. The only modification to this criterion that was needed was for the most recent program year (1989). In order not to have tutors who volunteered too late in the program year to have put in six months of service automatically designated as dropouts, an adjustment was needed. Therefore, for 1989, no new tutors whose first month of service was after March 31 were to be included. This meant that all tutors included in the data base for purposes of distinguishing dropouts from non-dropouts, had at least nine calendar months to put in six months worth of service as a tutor. Based on this distinction, a total of 505 tutors were found to qualify under the dropout designation, while 531 tutors could be designated an non-dropouts.

Chapter Four - Analysis and Results

Objective

The fourth objective, to conduct statistical analysis of variables affecting retention in the existing data, involved mainly the effort of staff at Reaserch for Better Schools (RBS). RBS completed the analysis and then met with CFL for review, revision and further question. As RBS brought to the study their research expertise, CFL brought years of direct program experience with which to evaluate the results. While this objective clearly was met, due to time constraints it was not possible to conduct analysis on all aspects felt to be interesting, especially with regard to tutors. This discussion will begin with students and follow with tutors.

Students

The analytic approach used to address the research questions is summarized in Figure 1, Chapter Three. The results summarized here are questions 3 through 16, as questions 1 and 2 were adddressed in Chapter Three (for full list of questions refer to Chapter Three).

•Characteristics of Dropouts, Characteristics of Non-dropouts, Characteristics of Dropouts vs. Non-Dropouts.

Since the consistent difference between the dropout and non-dropout samples was hours of attendance, it was decided to analyze all of the variables with respect to their effect on total hours of attendance. Accordingly, an analysis of variance was conducted on the mean hours of

attendance broken down by each variable within each characteristic. In cases where a significant "F" value was attained, a Least Significant Difference (LSD) multiple range test was employed to identify more specifically where the significant differences occurred. Table 4 shows descriptive statistics such as the frequencies and percentages of students by group and by characteristics. Analysis of variance tables are included in the Appendix. The variables which showed significant findings were: **sex, instructional level, age, ethnic membership, dependents, employment, previous educational experience, handicapped, area of residence, area of instruction, and instructional setting.**

Based on the analyses conducted, the following findings were obtained. A significant difference was attained for the **sex** characteristic with females having attainded greater hours than males. A significant difference was also found for the **instructional level** characteristic (including the following levels: 0-4, 5-8, GED, ESL). A multiple range test was conducted in which the 0-4 group was revealed to be statistically significantly different from the other groups. The 0-4 group had the highest mean number of hours of attendance. In addition, the **age** characteristic was found to be significantly different across the age groupings. Again, subjecting this to a multiple range test, the results indicated that each age grouping was statistically significantly different from all the other age groups. As the age of the student increased, the mean hours of attendance also increased. Another significant finding was for the characteristic of **ethnic membership**. When subjected to a multiple range test, it was found that the African-American group attained significantly more hours than did the White, Hispanic and Asian groups, the Asian group attending the least. In terms of the **dependents**

characteristic, it was found that those students without dependents attended significantly more hours than those with dependents. For **employment**, those who were not employed attended significantly more hours than those who were employed. However, when the category of unemployed students was divided into those looking for work and those not looking for work it was found that those looking for work comprised 44% of the dropout sample, 35% of the non-dropouts sample and 37% of the overall population. For the **previous educational experience** characteristic, a significant difference was also attained. When subjected to a multiple range test, it indicated that almost all of the educational range groupings were statistically significantly different from each other. Moreover, the sequence of means indicates that those with the least educational level of attainment tended to attain the highest mean number of hours. The **handicapped** characteristic was also found to be statistically significant. Those who were handicapped tended to attend the program almost twice as many hours than those who were not handicapped. **Area of instruction** (referring to the area of the city in which the classes were held, or in the case of special populations, the population served) was also found to be statistically significant. When looking at the sequence of means, from the multiple range test results, it can readily be seen that the lowest attending groups were the Homeless, Workforce Literacy and combined South/Center City. (Please note that further analysis is required for these populations as the Workforce and Homeless groups are the newest groups with the smallest sample sizes.) The highest attending groups being the Satelites (already existing programs with which CFL works), Northwest and West.

•Student Residence and Attendance

Another question of interest involved the number of hours of attendance for students whose area of program attendance was the same as their area of residence vs. those students whose area of program attendance was different from the area in which they resided. Many students at CFL travel outside of the community in which they reside in order to attend classes, and this question attempts to address the affect of this on student retention. To answer this, the number of hours was compared for a "same" group (area of residence the same as area in which classes were held) and a "different" group (area of residence different from area in which classes were held). Using an analysis of variance of mean attendance rates for these two groups, no statistically significant difference was found. It should be noted that such an analysis may be confounded by the fact that areas that appear distant geographically in Philadelphia may not be so when mass transit routes are taken into consideration.

•Employment and Attendance

A complete analysis of all student characterisitics and the effects on attendance was carried out for the sub group of students who were employed. A statistically significant difference was found for level, with the 0-4 group attending significantly higher numbers of hours than three of the other four groups. Age was also found to be a statistically significant characteristic. Once again, all ages were statisticlly significantly different from each other, with the oldest age group attending the most, and the youngest age group attending the least.

Ethnic membership was found to be statistically significant for the

employed sub group as well. Employed African-American students attended the program for the highest number of hours, while the multiple range test revealed White and African-American students to be significantly higher in attendance than Hispanic students. In terms of educational attainment, the lowest two groups (0-3 and 4-6) were found to be significantly higher in mean attendance than all the rest. Different areas in which the program was offered tended to have significantly different mean rates of attendance, with West and Northwest signficantly higher and Workforce significantly lower in hours of attendance.

•Unemployment and Attendance

For that portion of the student population which was unemployed, an analysis of all characteristics and their effects on attendance was conducted. Sex proved to be a significant characteristic, with unemplyed females attending more than unemployed males. Instructional setting was also significant, with higher attendance in the class setting. Instructional level was significant with the 0-4 and ESL levels significantly higher than the 5-8 level. Small sample sizes in the other groups make these results difficult to interpret for the level characteristic. Age, once again, was signficant following the pattern seen in earlier analyses. Generally, the older ages attain more hours than the younger. Dependents as a characteristic was also found to be significant. Those unemployed students without dependents tended to attend more than those with dependents. Educational attainment was significant, following the general pattern seen in earlier analyses. The lowest educational attainment groups tend to attend the program more and the highest

educated groups attend less. Students who were unemployed and handicapped also had significantly higher attendance than those who were not handicapped. Different areas in which classes were held showed significantly different attendance rates, with Homeless, combined South/Center City and Workforce being among the lowest and Satelites, Horizon House (mental health and substance abuse programs), Northwest and West being among the highest. Zip code (area of residence of the student) was also a significant characteristic with Northeast and Northeast 2 being among the lowest and Center City being among the highest.

•Responsibility and Attendance

To determine whether students with more responsibilities attend more or less than students with fewer responsibilities, the population was again scored by sub groups. One sub group included those who were married, had dependents, and were employed. The other included students who did not meet these criteria. An analysis of variance showed significantly higher attendance for the latter group, those defined as having fewer responsibilities.

•Education Level and Attendance

The relationship between the last (highest) grade completed and attendance was studied. A Pearson product-moment correlation was computed between highest grade completed and number of hours of attendance. This correlation was found to be -.14, indicating the higher the education level, the lower the attendance.

•Single Mothers and Attendance

The question as to whether or not single mothers with children tend to have lower attendance was studied. For this comparison, three sub groups were examined. One group was constituted of female students who were single with dependents; the second group of female students who were married but without dependents; the third group of female students were married with dependents. No significant differences were found. (However, it should be noted that of the three sub groups, the single mothers displayed the highest attendance.)

•Range of Attendance

The range of mean attendance for students grouped according to their instructional setting was compiled for each instructional area and is presented in the Appendix. The highest attendance was in classes in the following instructional areas: Satelites, and Center City. The lowest attendance was in classes in the Homeless and combined South/Center City areas.

•Poverty and Attendance

In order to investigate the effect of poverty on attendance, two sub groups were formed for analysis purposes. One group was constituted of all students who were both NAA eligible and were receiving public assistance. The other group consisted of those ineligible for both programs. An analysis of variance of mean attendance between the groups revealed no significant difference. Thus, poverty appears not to be a significant factor in attendance among all students studied.

•Special Programs and Attendance

A listing of mean attendance by area and by program type was compiled. This was done in an effort to examine attendance within and across the different programs being conducted by CFL, particularly new populations such as Workforce Literacy and Homeless populations. This compilation is presented in the Appendix. Findings indicate lower mean numbers of hours for some of these programs than CFL's traditional populations, however, further longitudinal data is necessary since the length of time to accumulate hours was less.

•Education Level by Reading Level and Attendance

A study of the combined effect of previous educational experience and instructional level was undertaken. To address this, within each initial instructional level, education experience was correlated with attendance using the Pearson correlation coefficient. Statistically significant correlations were found for the 0-4 and 5-8 levels. These were -.14 and -.11 respectively. Again, these indicate a negative correlation evidenced between previous educational experience and attendance.

•Student Characteristics that Predict Attendance

In order to determine what student characteristics could be used in combination to predict attendance as a criterio variable, a multiple regression analysis was performed. The results indicated a multiple R of .30 with five variables (characteristics) in the prediction equation: age of student, sex of student, student's instructional level, student handicaps, and previous educational experience of student.

Table 4

STUDENT GROUP COMPARISONS

GROUPS / CHARACTERISTICS	DROP OUTS (N=1,047)	HIGH ATTENDERS (N=1,038)	NON DROPOUTS (N=2,503)
Sex			
Female	477 (52%)	580 (56%)	1361 (56%)
Male	443 (48%)	448 (44%)	1062 (44%)
Missing	127	10	80
Level			
0-4	483 (49%)	624 (61%)	1300 (55%)
5-8	266 (27%)	246 (24%)	668 (28%)
9-12	1 (1%)	---------	12 (1%)
ESL	222 (22%)	144 (14%)	361 (15%)
GED	21 (2%)	10 (1%)	26 (1%)
Missing	54	14	136
Setting			
Class	648 (62%)	539 (52%)	1290 (52%)
Individual	391 (38%)	498 (48%)	1208 (48%)
Missing	8	1	5
Age			
Under 25	135 (20%)	60 (6%)	217 (10%)
25-34	271 (41%)	258 (28%)	707 (34%)
35-44	140 (21%)	289 (31%)	574 (28%)
45-55	80 (12%)	195 (21%)	368 (18%)
55 and Over	40 (6%)	128 (14%)	209 (10%)
Missing	381	108	428
Marital Status			
Married	174 (30%)	311 (35%)	674 (34%)
Single	295 (51%)	361 (41%)	887 (45%)
Divorced	103 (18%)	165 (19%)	350 (18%)
Widowed	12 (2%)	45 (5%)	76 (4%)
Missing Cases	463	156	516

STUDENT GROUP COMPARISONS (continued)

	DROP OUTS	HIGH ATTENDERS	NON DROPOUTS
NAA			
Eligible	177 (55%)	238 (49%)	589 (52%)
Ineligible	145 (45%)	244 (51%)	550 (48%)
Missing	725	556	1364
Ethnic Membership			
Indian	1 (0%)	---------	3 (0%)
Asian	44 (6%)	56 (6%)	132 (6%)
Black	413 (57%)	559 (60%)	1227 (58%)
Hispanic	134 (19%)	122 (13%)	300 (14%)
White	129 (18%)	188 (20%)	439 (21%)
Missing	326	113	402
Dependents			
No Dependents	273 (47%)	480 (54%)	1012 (51%)
Dependents	310 (53%)	405 (46%)	963 (49%)
Missing	464	153	528
Employment Status			
No	4 (1%)	4 (0%)	10 (0%)
No, Looking	274 (44%)	308 (35%)	706 (35%)
No, Not Looking	79 (13%)	174 (20%)	333 (17%)
Yes	266 (43%)	403 (45%)	952 (48%)
Missing	424	149	502
Education			
0-3	51 (9%)	124 (14%)	191 (10%)
4-6	61 (11%)	157 (18%)	290 (15%)
7-9	165 (29%)	242 (28%)	517 (26%)
10-11	164 (28%)	159 (18%)	443 (23%)
12-HS	100 (17%)	142 (16%)	372 (19%)
13-18	27 (5%)	31 (4%)	99 (5%)
sp	9 (2%)	22 (3%)	48 (2%)
Missing	470	161	543
Degree	291 (51%)	332 (39%)	914 (48%)
No Degree	277 (49%)	523 (61%)	998 (52%)
Missing	479	183	591

STUDENT GROUP COMPARISONS (continued)

	DROP OUTS	HIGH ATTENDERS	NON DROPOUTS
Public Assistance			
No	361 (58%)	573 (64%)	1280 (64%)
Yes	258 (42%)	318 (36%)	714 (36%)
Missing	428	147	509
Handicapped			
No	585 (96%)	812 (91%)	1875 (94%)
Yes	27 (4%)	77 (9%)	112 (6%)
Missing	435	149	515

	DROP OUTS	HIGH ATTENDERS	NON DROPOUTS
Area/Res			
cc	78 (8%)/ 10 (2%)	100 (10%)/ 17 (2%)	270 (11%)/ 45 (2%)
n	159 (15%)/177 (31%)	89 (9%)/256 (29%)	248 (10%)/569 (29%)
ne	53 (5%)/ 65 (11%)	48 (5%)/ 69 (8%)	140 (6%)/181 (9%)
ne2	41 (4%)/ 28 (5%)	64 (6%)/ 43 (5%)	135 (5%)/ 90 (5%)
nw	74 (7%)/ 46 (8%)	149 (14%)/106 (12%)	287 (11%)/221 (11%)
s	60 (6%)/ 72 (12%)	65 (6%)/119 (14%)	158 (6%)/258 (13%)
sc	25 (2%)---------	14 (1%)/---------	30 (1%)/---------
w	181 (17%)/149 (26%)	210 (20%)/202 (23%)	454 (18%)/449 (23%)
w2	---------	--------	---------
wg	53 (5%)/ 6 (1%)	60 (6%)/ 14 (2%)	138 (6%)/ 30 (2%)
h	87 (8%)/---------	98 (9%)/---------	226 (9%)/---------
e	150 (14%)/---------	96 (9%)/---------	232 (9%)/---------
sat	2 (0%)/---------	8 (1%)/---------	14 (1%)/---------
su	---------/ 27 (5%)	--------/ 42 (5%)	---------/ 95 (5%)
wf	56 (5%)/---------	35 (35%)/---------	139 (6%)/---------
hml	16 (2%)/---------	--------	25 (1%)/---------
Missing	12/467	2/170	7/565

Tutors

The analytic approach used to address the research questions is summarized in Chapter Three. The results summarized here relate to questions 3 and 4, as questions 1 and 2 were adddressed in Chapter Three (for full list of questions refer to Chapter Three).

•Characteristics of Dropouts, Characteristics of Non-dropouts

– Table 5 shows the characteristics of dropouts and non-dropouts. As can be seen in the table, both sub groups are similar to the entire group of tutors in their distribution of females and males. That is, roughly three quarters of both groups of tutors are female and the other quarter are male. In terms of level of instruction the tutors are involved in, both sub groups are comparable, with the overwhelming percentage of tutors involved with the 0-4 level. With respect to setting, the sub groups are again comparable in that 99% of the tutors from each group are involved in individual tutoring. For age, some slight differences appear between the two sub groups. The dropout sub group of tutors appears to have a slightly larger percentage in the 25-34 and under 25 age groups, while the non-dropout sub group appears to have a larger percentage of its group in the upper two age levels. This difference amounted to sixteen percentage points at the younger age level and twelve percentage points at the upper two age levels. In terms of marital status, the non-dropout sub group had a slightly higher percentage of married tutors than the dropout sub group. With regard to ethnic membership, it appears that the dropout sub group has a higher percentage of African-American tutors and a lower percentage of White tutors than the overall population. Employment status appeared comparable across the two sub groups. The distribution

of education levels for the tutors appeared to be different across the two groups, with a slightly lower percentage of tutors in the higher education levels in the dropout sub group and a slightly higher percentage of tutors in the higher education levels in the non-dropout sub group. Area in which instruction was undertaken as compared to area of residence for the tutors has been compiled for each service area within the city as part of Table 5.

Conclusion

The above findings indicate characteristics of both students and tutors which differentiate dropouts from non-dropouts according to the working definitions which were developed. While in many cases the non-dropouts are similiar to the overall population served at CFL, it is clear from these findings that there are ways in which dropouts are unique. The interpretation of these findings for the purpose of developing potential program implications is therefore an important result of these analyses. Chapter Five covers this aspect of the study.

TABLE 5

TUTOR GROUP COMPARISONS

	DROP OUTS	NON-DROP OUTS
TUTOR		
Sex		
Female	326 (76%)	402 (77%)
Male	105 (24%)	123 (23%)
Missing	74	6
Level		
0-4	233 (81%)	314 (79%)
5-8	55 (19%)	84 (21%)
Missing	217	133
Setting		
Class	5 (1%)	4 (1%)
Individual	471 (99%)	519 (99%)
Missing	29	8
Age		
Under 25	75 (20%)	54 (11%)
25-34	152 (41%)	164 (34%)
35-44	61 (16%)	97 (20%)
45-55	34 (9%)	64 (13%)
55 and Over	49 (13%)	98 (21%)
Missing	134	54
Marital Status		
Married	20 (21%)	97 (31%)
Single	61 (63%)	168 (54%)
Divorced	12 (12%)	34 (11%)
Widowed	4 (4%)	12 (4%)
Missing Cases	408	220

TUTOR GROUP COMPARISONS (continued)

	DROP OUTS	NON-DROP OUTS
Ethnic Membership		
Indian	1 (0%)	---------
Asian	4 (1%)	2 (0%)
Black	100 (29%)	99 (23%)
Hispanic	1 (0%)	2 (0%)
White	237 (69%)	321 (76%)
Missing	162	107
Employment Status		
No	65 (19%)	60 (14%)
No, Looking	------	1 (0%)
No, Not Looking	20 (6%)	37 (9%)
Yes	257 (75%)	330 (77%)
Missing	163	103
Education		
No	5 (1%)	12 (3%)
cb	115 (34%)	176 (42%)
cm	2 (1%)	8 (2%)
cs	8 (2%)	9 (2%)
ge	1 (0%)	3 (1%)
hs	58 (17%)	58 (14%)
ma	54 (16%)	60 (14%)
sc	97 (29%)	86 (21%)
ts	-------	2 (0%)
Missing	165	117

TUTOR GROUP COMPARISONS (continued)

	DROP OUTS	NON-DROP OUTS
Area/Res		
c	30(7%)/--------	29(5%)/ ------
cc	18(4%)/ 55(14%)	53(10%)/ 61(12%)
n	43(10%)/ 38(10%)	24(5%)/ 35(7%)
ne	22(5%)/ 27(7%)	41(8%)/ 44(9%)
ne2	54(12%)/ 37(9%)	59(11%)/ 44(9%)
nw	70(16%)/ 58(15%)	82(15%)/ 77(15%)
s	12(3%)/ 29(7%)	37(7%)/ 52(10%)
sc	53(12%)/---------	33(6%)/-------
w	148(33%)/ 97(25%)	172(32%)/116(23%)
wg	-----/ 1(0%)	-----/ 1(0%)
sat	1(0%)/---------	---------
su	---------/ 52(13%)	--------/ 77(15%)
Missing	54/111	1/24

CHAPTER FIVE - DISCUSSION AND IMPLICATIONS

Objective

Perhaps the most significant aspect of this project is the result of this fifth objective which was to interpret the statistical analysis results and suggest implications for program development. This goal was met by presenting the results to a committee of staff members who, representing various aspects of the program, were able to use their experience with adult learners to address the findings.

Initial discussion centered on a review of the process to date and the definitions used in the study. A summary of findings, as well as the data charts were reviewed and questions were raised. After familiarizing themselves with the findings, staff focused on a few significant categories, offering possible explanations for the findings and potential program implications.

The following sections are a summary of staff response. Most discussion here will refer back to the tables presented and annotated in Chapter Four. Major findings are elaborated here, while minor findings are only briefly mentioned. Student and tutor findings and implications are discussed separately, with emphasis on the student findings.

Some significant implications which are elaborated for students are:

- Focusing on specific, individualized student goals and interests
- Increased support from staff
- Topic oriented small group instruction
- Increased flexibility for special needs
- Relevant curriculum and materials
- Tutor/teacher training oriented to specific student needs
- Ongoing tutor/teacher support
- Meaningful and supportive initial and ongoing assessment

- Portfolio assessment for increased understanding of progress, processes and goals
- Student collaboration
- Drop-in centers for transition periods

Students

•Empoyment Variable

Discussion focused initially on the finding that while 37% of the whole student population had an employment status of "unemployed, but looking for work", 35% of the non-dropouts had this status, but 44% of dropouts did also. When the unemployed students were not broken into "looking for work" and "not looking" the difference between employed and unemployed was not significant, reinforcing the strenth of the "looking for work" variable. Possible explanations for why unemployed learners who are looking for work tend to dropout more than other learners were offered based on staff understanding and experience with these learners. The great stress of being unemployed combined with the pressure of looking for work creates a difficult situation for adult learners to then enter into a new learning experience. The insecurity and instability of this situation competes with the often serious and urgent need to increase reading and writing abilities also experienced by learners at this time. Staff have also found that the time demands of a job search and demands of learning a new job once one is found, can make it difficult for learners to consistently attend a literacy program or to do any reading and writing homework outside of classes. The frustration involved with managing the varied demands of a job search and a new learning program may lead someone to leave before completing his/her goals. It is also possible that learning may come too slowly with such a fragmented program, also causing a learner to leave the program (Boracks, 1981). With these

possible explanations in mind, staff considered potential program implications which might provide the support needed to encourage these learners to stay in the program even in the midst of this difficult situation.

As staff discussed potential program implications, one issue that arose was whether during this time learners need a program which provides an extra focus on their job needs, or a program which provides an escape from the job stress by focusing on other goals and interests. A follow-up with learners using anecdotal information available from initial interviews, staff interviews and interviews with learners directed at this question specifically will help to answer this question. However, at present, staff chose to consider avenues to support these learners by focusing on their specific job needs, due to an understanding of the importance of course relevancy to student goals. The first suggestion was to develop extra support and contact for these learners by staff and other learners in the program. Such support might include a more frequent and consistent phone contact schedule and a routine of more frequent staff assessment, for example, monthly planning conferences rather than planning conferences which occur every six months.

Another suggestion was to organize several learners who share this situation into small groups around the topic of looking for a job. This structure would allow a more personal setting than a typical class and therefore provide support during this stressful time, but would also allow more flexibility than a typical tutoring situation. A small group could provide a more flexible attendance structure so that if learners need to miss some sessions for their job search, they will not feel a need to leave the program entirely. A less consistent attendance pattern could be built

into the expectations of the group and into the curriculum. A curriculum which allows for missed sessions, such as one which does not rely heavily on a particular workbook or series of materials which must be completed in order as a group, might instead engage learners in a more individualized program utilizing real life materials such as newspaper employment ads, role play experiences to practice for interviews, and collaborative efforts at resume and cover letter writing. This small group should also provide support for learners as they adjust to the demands of a new job. It is possible that if learners are given a more flexible setting in which to learn reading and writing which applies particularly to their immediate job needs, they would stay in the program despite the pressure against their efforts.

A related suggestion involves volunteer tutor preparation. Tutors need to be better trained to use materials which are immediately relevant to the learner's job needs. While tutors are often most comfortable with a traditional approach to teaching reading and writing which relies heavily on structured curriculum materials, they need to be given training and staff support which also helps them to be comfortable with an approach to literacy that utilizes real life materials, focusing on learners' goals. This most likely will require a routine of extra staff support for tutors who work with small groups or individuals who are unemployed and looking for work. As staff are in frequent and consistent contact with these tutors, they can quickly redirect tutors who have moved away from the job theme or provide materials and instructions for tutors who need help with ideas. If staff time is too limited for this extra contact, perhaps networks of tutors can form so that they themselves can collaborate. Not only does tutor preparation need to include curriculum ideas, but also, there needs

to be agreement about the flexible attendance expectations, as missed sessions can often be a great discouragement to volunteers and professional teachers alike.

Lastly, it is suggested that there be a deliberate and planned progression from these job related learning situations to other literacy options so that as learners achieve their job related goals they are then able to move into another situation which will meet their learning needs. Learners, tutors and staff must plan together so that the learners are always engaged in the most effective program for them at any given time, for it is at times of transition, such as job hunting, and times where the program lacks relevance that we suspect the most learners leave the program without having completed their goals.

•Age and dependents variables

It was a particularly prominent finding that retention increases with age. While only 13% of the sample are under 25 years of age, 20% of dropouts vs. 6% of high attenders and 10% of non-dropouts are under 25. Discussion of the reason for such a high dropout rate for students under 25 involved not only what is unique about this particular age group, but why the findings indicate that retention increases with age. Staff suggested that younger students, particularly those under 25 are less aware of their goals and do not tend to know themselves as well as those students who attend the program with a background of more years of life experience. Staff also suggested that according to their experience it is not unusual for students between ages 16 and 21 to attend programs intially due to parental pressure rather than strong personal motivation, as is characteristic of older learners.

It is clear that there is a need to develop programs to support this age group. An important consideration is that strong networks for referral need to be in place, given the possibility that an agency might not have resources to serve this special group, or might not choose to develop the particular set of resources needed. Programs which focus on youth and their issues are helpful options, such as the West Philadelphia Community Center's teen pregnancy literacy class or Comprehensive Services to Teenage Parents. Both of these programs are adapted to suit the particular needs of younger adults and as staff develop contacts with such programs they may be able to share a referral system which provides support to those under 25. However, there are also options for providing support for these individuals without referring them to another agency, especially if the learner has expressed a particular preference not to be referred, there is not an program at a convenient time or location for them, or they desire inidividual tutoring not available in a program which only offers classes. It is recommended that these individuals be consistently and frequently contacted in an effort to provide support and encouragement.

It is also essential to focus on the learners' goals in a way which helps them to define both short and long term goals. While this is essential in any adult literacy context, it appears to be particularly important for younger learners in that they may need assistance in targeting goals if they are uncertain of immediate or long term aspirations. Also, for these learners, some of whom may have just dropped out of high school for any number of reasons, it seems particularly important that they feel their learning has immediate relevance to their lives. Individualized goal setting and curriculum

planning will help to achieve this, as will a frequent revisiting of these goals and plans to assure needs are being met. Staff have suggested that due to the fact that these learners may be less certain than others about their goals, needs and personal expectaions it is especially important to engage them in frequent conversations about these things. Lastly, it is suggested that small groups of learners under the age of 25 might provide some of this necessary support and additionally, provide peer contact which is particularly important to individuals of this age group.

While it is helpful to develop these program implications it is also helpful with regard to this finding, as well as others, for staff to understand the trends which are in some ways related to factors outside of the control of the program , such as an individual's personal maturity and development (please note literature review in Chapter Two), and therefore help staff to better manage some of the frustration of their limitations.

This variable was developed further by discussion of the finding that while 36% of the sample are between the ages 25 and 34, 41% of the dropouts vs. only 28% of the high attenders and 34% of the non-dropouts are within this age range. Staff were particulary concerned with this trend as it represents more than a third of the overall population. It was suggested that this age range represents the time period in one's life cycle that great change and responsibilities tend to develop, for example, the tendency to settle into longer term job commitments and family responsibilities. One staff member described this group as those with "good intentions, but more obligations". It was found that students without dependents have higher retention than those with dependents. It was also found that while 50% of students in the overall population had

dependents, 53% of dropouts did while only 46% of high attenders did. Concern was supported by the finding that married employed students with dependents had lower retention than those unmarried, unemployed without children (although the unemployed category was not divided into those looking or not looking for work in this case.) With regard to this characteristic, extensive discussion centered on goal oriented small group situations which can provide emotional support and a focus managing the specific reading and writing demands of particular responsibilities associated with this time of life. One example is that of familiy literacy, which links the reading and writing needs of parents with their parenting goals. Often family literacy programs make provisions for learners to bring their children with them, and others focus only on the parents and their specific reading and writing needs using curriculum resources centered on parenting. The finding that those with dependents have lower retention supports this recommendation, as well as a need for day care opportunities. It has been suggested that agencies make some provision for childcare, given these two findings. This can take several forms depending on the agency's resources. Any range of services from compiling a list of recommended local day care centers and developing contact people at them, to developing formal linkages between the agency and local day care centers, to providing on-site day care facilities. Regardless of the extent of resources available, it is clear, given the findings which indicate the lower retention of parents (variables of age and dependents), that some attention must be given to the issue of child care if retention is to be raised.

Along with family literacy, staff also recommended the development of workplace literacy opportunities. While this study does not show a

high retention of students in workforce literacy classes, this finding was based on a very small sample over a much shorter amount of time than the rest of the program, therefore, more research is needed on this population. Staff experience, however, suggests workplace programs to be particularly positive, providing students with many of the program aspects which are felt to contribute to greater retention. Again, the group support and common experience of the learners in this setting, helping students manage responsibilities such as childcare and employment needs, and the goal focus assures that the learning will have immediate relevance. Some workplace programs also provide release time or financial rewards for participation, others make the premises conveniently available for classes to be held right after work.

Family literacy and workplace literacy are just two examples of ways that programs can respond to the needs of the learners in a way that encourages them to stay in the program until they have met their goals, regardless of the demands placed on them in this phase of life. In programs such as these, the responsibilities which might otherwise be obstacles become resources for learning.

·Level Variable

It was found that students in the 0-4 level category had higher retention that those in any of the other categories (5-8, ESL, GED, or 9-12). Staff discussion focused on possible explanations for the strength of the 0-4 level students' retention along with why the other levels had a weaker retention.

Staff suggested that according to their experience 0-4 level students tend to be older, while 5-8 and GED/9-12 levels tend to be

younger, more recent high school dropouts who remained in the traditional public school system longer. This suggestion is supported by this study's findings about age. These higher level individuals may enter adult literacy programs with a great deal of frustration from previous negative experience or may have a lower self esteem due to these frustrating years spent in school. Another possible explanation is that students in higher levels come to literacy programs with a less urgent sense of need, as they are able to meet day to day literacy demands with greater ease. It is possible also that students at the beginning levels have more short term goals which can be met more quickly, thereby poviding a sense of success earlier on, as opposed to higher level students who staff have found to often have the goal of passing the GED exam or meeting other long term goals which do not provide as immediate a sense of accomplishment. The implications for tutor training is the need to emphasize strategies for tutoring higher levels. Staff commented that tutor training does not usually emphasize higher levels, and that some tutors feel that these students present an even greater teaching challenge.

The focus of program implications for higher level students is once again to select both short and long term goals in order to assure the program's relevance. CFL includes as part of its initial interview for new students extensive discussion of goals and the completion of a goal checklist. It is important for student goals, then, to be prioritized, to be re-evaluated regularly, and for long term goals to be broken down into more specific objectives. Therefore, students who enter with a less urgent sense of need or less clear goals may be given the support needed to counteract the discouragement which may cause some of these learners to leave before meeting either short or long term goals.

Tutor training plays a big part in this as well. Workshops and tutor meetings are needed which prepare volunteers to assist not only with this goal setting and evaluation, but also to work with students who may have long term goals. While it is helpful for students be encouraged to select some short term goals, still some will enter with strong long term goals such as passing the GED exam , which must be addressed. To assist with this goal, for example, tutors need to understand what the exam entails, how to best study for it, strategies for test taking and what curriculum materials might be of use to them. Tutors who are familiar with the GED can also be a helpful support as aides in GED classes.

Some may use this finding to support the clear division of students into classes or small groups by level, however, it has been suggested that classes and groups be organized instead by interest and that professional teachers and volunteer tutors receive staff development on effective facilitation of collaboration within diverse groups. In this effort it may also be helpful to enlist the help of volunteers as aides in diverse class situations, thereby allowing emphasis to rest on interests, but also providing extra support to students who might need it.

·Education Variable

It was found that those with the highest educational attainment had the lowest retention. Those who spent fewer years in school had greater retention. It is often true that those who have spent fewer years in school are also those who start at the more beginning levels in adult literacy programs, so the above discussion is related to this variable as well, but additional discussion is also helpful. Staff experience leads them to believe that the students with less educational experience are

similiar to lower level students in that they are older and as elaborated earlier, older age groups have higher retention. However, much discussion of this variable centered on attitudes. It was suggested that those students who have spent the most time in formal educational settings without developing the level of literacy ability they desire have experienced the greatest amount of failure, making it particularly difficult to enter yet another learning situation with the confidence to persevere. This experience of many years of frustration may also lead to a lower self esteem, potentially limiting one's ability to remain in a learning program through times which seem to be offering less success. Additionally, along with the above explanations for why older adults have greater retention, it was suggested that for these students there has been more time to build up life successes outside the realm of formal education, thereby providing self confidence which may be lacking in younger students who have less opportunity to have success in family, community or work.

Much discussion of possible program implications focused on how to support students who have had the frustrating experience of spending years in school without achieving the necessary literacy skills for which they come to ABE programs. Perhaps most important is to focus on the positive experience that these students have had. CFL spends time in initial interviews discussing not only what a new student would like to be able to do, but also what they are already doing, in order to identify and capitalize on strenghts. It is for this reason that CFL has develped an alternative assessment built around authentic reading and writing activities in an effort to avoid the anxiety producing experience of traditional grade level testing. At CFL this more supportive beginning has

been expanded by piloting a new experimental student/tutor orientation program (funded by the Pennsylvania Department of Education as a 1989 -90 353 project) in which a student and volunteer tutor are matched before the tutor is trained and then the pair attends the orientation together. During this orientation, students and tutors together gain hands on, collaborative experience with learning strategies, and observe modeling of these strategies. It has been suggested that this joint, supportive effort in starting the program is especially helpful to those students who have experienced a great deal of negative experiences in the past.

Also of particular importance to students who have met with a lot of frustration is that frequent opportunities for follow up goal setting and self assessment be made available. It may be difficult for these students to see their own progress, as progress is often made in small steps rather than big leaps, so it is recommended that staff set aside time on a regular basis to review with students how they feel they are doing in meeting their goals. Another way that students can be given opportunities to monitor their own progress is by the use of portfolios, whereby students are encouraged to collect, organize and evaluate their own work over time. With portfolios as a regular part of a student's learning experience, there are frequent opportunities to look critically ot one's own work which is in itself a valuable activity, but also provides time for and attributes value to the student's own perception of his/her work.

Many adult literacy programs use donated space in churches, community buildings or businesses where staff are not readily available to offer support to student/tutor pairs, to model techniques, to offer curriculum suggestions or to intervene when the tutoring does not seem

constructive. It is suggested that a more centralized structure which lends itself to greater staff involvement would be particularly beneficial to students who might require greater support. CFL is presently reorganizing organizational structures will to allow sites to be centralized.

Lastly, staff discussed the problem of managing waitlists of students. It is not uncommon in adult literacy programs for a student to not be able to begin tutoring or a class immediately due, for example, to a lack of available volunteers or class openings. For students who have experienced perhaps years of frustration it is important that they be able to begin in some tanglible way relatively quickly, as these students may have overcome a great deal of anxiety in making initial contacts. To keep them waiting might mean they never begin. Some suggestions for immediate service include: computer learning centers, "drop-in " centers with staff available to assist with such activities as filling out job applications, reading/resource centers with books and assistance available, or student support groups with activities available such as discussion groups, trips or reading groups. Students who are already involved in the program and who have develped a degree of confidence through their experience can be of great help to new students both before they officially begin instruction, and also after they have begun to attend classses.

•Poverty Related Variables

It is interesting to note that when the variables of NAA eligibility and public assistance were examined from several different perspectives, using several different analysis approaches this was never found to be a

significant characteristic with regard to retention and attrition. Despite many stereotypes to the contrary it is clear that those students who are in economically challenging situations are not any less persistent in literacy programs than those in less challenging situations. Because of the stereotypes that exist about this particular group of individuals this finding of non-significance is important and should be recognized by staff and volunteers working with adult literacy students in order to assure maximum sensitivity.

Tutors

CFL depends greatly on volunteer support for individual instruction of adult learners. Tutor retention is a crucial issue especially due to the great risk and effort involved for students in entering an adult literacy program. It is helpful therefore not only to understand who tends to meet the six month commitment and who does not, but also to consider what program implications can be developed. It is important to understand which tutors tend to stay and so recruit more of them, but it is also important to recognize the value in diversity of tutors and so seek ways to support some of the tutors who may not tend to stay.

•Age Variable

Initial staff discussions focused on concern over why while 17% of the overall tutor population are under 25, 20% of dropouts are in this age group and only 11% in the non-dropouts. One possible explanation offered was that most of the tutors who are college students would fall into this category. This group, while often very available and energetic, have a more tentative schedule which revolves around the school calendar and so

tutoring is frequently interrupted by exams and school breaks. This might be especially true for students from colleges and universities which are not commuter schools.

Another explanation offered was the nature of lifestyles of this age group which are often more transient as individuals settle into jobs, homes and family responsibilities. Older tutors, on the other hand, especially the 45 to 55, and 55 and older categories may have lives which are more stable with less interrupting life changes thereby making it easier to maintain long term volunteer commitments. It has also been suggested that there may be variations in the underlying motivations of younger vs. older tutors, such as younger students' interest in gaining experience useful to them in getting a job.

Suggestions for potential program implications include ways to use college students and other volunteers who feel that their schedules do not lend themselves to the consistency necessary for tutoring. These volunteers can be quite helpful as aides in small groups or larger classes. In this setting not only is a less long term and consistent commitment required, but also in groups adult literacy students may depend more on one another and less on the teacher or aide, thereby causing less disturbance when the volunteer is not available. These volunteers can also help with students who need only to be at CFL for a quick brush up before entering another program.

These tutors could also be used at drop-in centers to help students in a less formal setting. For example, CFL operates several computer learning centers and tutors are needed who are able to become familiar with the software and are available to assist students who drop in at these centers. There are also often other means of volunteering aside from

direct student contact which have been very helpful to CFL without matching the tutor with a student if the commitment will not be able to be met, such as clerical support or help with special agency projects.

Recruitment efforts may involve targeting groups which are known to meet the six month commitment, but also may involve strategic efforts to utilize more transient groups, such as via advertisements in community newspapers or church bulletins. Another example, in order to make use of college students as volunteers it is essential that recruitment efforts be made at the start of the fall semester. Any later in the semester will make the volunteers unusable after training is completed.

•Education Variable

Staff discussion of this variable focused on the findings which indicate that retention increases with education level achieved, for example, while 40% of the overall population have completed bachelor's degrees, only 34% of those in the dropout sample did and 42% of the non-dropout sample did. Initial discussion focused on why those with a lower educational achievement may tend to dropout and why those with a higher educational achievement may tend to stay with the program longer.

One possible explanation is that while tutors who have a lower educational achievement may not be any less capable of tutoring once they have completed CFL's tutor training, they may perceive of themselves as less able to tutor when the inevitable frustrations of tutoring arise. It was suggested also that those who have higher educational achievement, such as college, may be more acustomed to how long it often takes to reach educational goals and therefore may not be as easily discouraged by common frustrations.

With these possible explanations in mind, staff considered options for supporting tutors who may perceive of themselves as less capable. Ongoing tutor workshops are a helpful way to create opportunities for those tutors who may feel that the initial tutor training is not enough. It also might be helpful to encourage formal or informal teams of tutors where more confident tutors can support tutors who feel less able. It is a basic, but essential point to remember that tutor training must be sensitive to the varying educational experiences of volunteers. CFL has implemented an experimental student-tutor orientation in which the student and tutor are matched prior to the training and attend the orientation together. For tutors who feel less capable of tutoring this can provide a great deal of support as the tutor and student together learn and apply techniques for tutoring.

•Ethnic Membership Variable

Staff discussion of the findings related to this variable raised many questions as well as potential explanations and possible implications. Of greatest concern was the finding that while 22% of the overall population is African-American and 73% are White, in the dropout sample 29% are African-American and 69% are White. First, in suggesting potential explanations it is useful to note the complexity of this variable. Ethnic membership may be so highly correlated with other variables such as employment, education, or other demographic variables that it is difficult to sort out the role that ethnic membership plays in tutor retention.

However, in suggesting potential explanations, questions were raised as to the economic status of the African-American tutors.

Volunteering involves considerable time and effort and it is suggested that if tutors in some communities of Philadelphia are experiencing greater economic struggle, it would be more difficult to maintain a long term volunteer commitment.

Another aspect to be considered is that in many communities there are already established networks for community service, such as through local churches and community groups. When volunteering does not tap into this resource, it may not provide the support and familiarity necessary for tutors to choose to remain.

In response to both of these suggested explanations, many recommendations were made for providing more support of African-American tutors. A main suggestion involves tailoring support to the needs of specific communities. CFL is involved in a reorganization effort in which areas will be organized into teams and managed with the specific area and its strengths and weaknesses in mind. Special attention such as this allows staff of adult literacy programs to value and support diversity of volunteers.

Another suggestion involves networking with already existing service opportunities based in communities. CFL has found efforts to recruit and train on site in local churches and community groups to be effective. It is suggested that increased community networks will allow not only for the sensitivity required to maintain diversity of volunteers, but also will build on the strength of these already existing structures in a way that would increase retention of tutors.

CHAPTER SIX - CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER INQUIRY

Objective

The sixth objective of this study was to compile a final report to be disseminated statewide, including a discussion of the issues, process, results and recommendations for program improvement. This objective is met in the completion of this report and will serve to provide CFL and other adult literacy programs with tools with which to address the issue of retention and attrition. In concluding, as the issue of retention and attrition in adult literacy programs is a much broader issue than can be dealt with entirely in this one study, it is essential to consider recommendations for future inquiry as we look forward to possible next steps in addressing this issue.

Other Quantitative Concerns

During the course of this study, especially as the findings were evaluated and implications were proposed various other quantitative questions were raised. Due to time constraints many of these questions were left unanswered. Some recommendations for further quantitative research regarding are:

•Students

•What are other combinations of student variables which could be considered, for example, do any of the significant findings indicated by this study become insignificant when combined with other variables?

•What more can be learned of the students populations which are newer to CFL , such as Workforce Literacy once there is more longitudinal

data available?

•Do initial findings about students being tutored outside of their area of residence vary when city transit routes are taken into consideration?

•What other demographic/quanitative student data can be collected and analyzed that was not considered in this study, such as: occupation, referral source, or number/type of other programs previously attended?

•Tutors

•What findings are significant when the basic data is analyzed according to mean attendance hours?

•What other variables would be helpful to consider, such as occupation, dependents or referral source?

•As voluteer tutoring is expanded to the areas of small group and classroom tutoring, what can be learned of how these tutors are alike and different from tutors who tutor in individual settings?

The above is just a sample of some of the questions which can be raised and addressed through further quantitative inquiry.

Qualitative Concerns

While the demographic/quantitative information has increased our understanding of retention and attrition of students and tutors, there are still a great deal of questions which can only be answered through qualitative research, such as ethnographic methods. Much of the current research base focuses on the affect of student self-esteem, goal orientation, motivation, personality, student perceptions of retention or life cycle issues on participation and persistence in adult education. Many of the questions raised by staff in the evaluation of findings and the

development of program implications involve these issues and are unanswerable by purely quantifiable data. Future research clearly needs to move in the direction of ethnographic interviews and other opportunites for both students and tutors to tell their stories in order to take our understanding to a deeper level and to assure the appropriateness of program implications.

Many questions raised by staff also relate to tutors, including such issues as the impact of various occupations on retention. It was also suggested that ethnographic methods address issues such as tutor expectations and motivations, and the impact of situations where students and tutor are from different backgrounds.

There are also many program related concerns which must be investigated through more qualitative research. For example, questions regarding the affect on retention and attrition of such issues as the quality of the student/tutor relationship or the curriculum choices made, are of utmost importance to address. In order to address some of these issues, CFL hopes to implement future research plans.

Suggestions for Data Collection/Data Management

As a result of this study some suggestions can be offered for the collection and management of data. Clearly one of the most difficult aspects of conducting this study was the inconsistent and incomplete nature of the data (please note Chapter Two for discussion of the reasons for these limitations). Therefore, it is a strong recommendation to other adult literacy programs interested in conducting similar research to develop a routine for data collection and management over time which will allow for analysis. This includes, for example, making decisions

about coding data and keeping those codes over time.

Another recommendation involves the data management system used. A particularly helpful aspect of this study was having access to the Digital VAX system at RBS, especially due to its capacity to link student and tutor records from year to year. There are limitations inherent in a system which requires that each year be looked at individually and we were only able to get a complete picture of retention and attrition over time when we were able to look at the data longitudinally.

Lastly, due to the lack of a current, relevant research base in the field of adult literacy education, it is strongly recommended that more attention be given to the issue of retention and attrition for this population. In order for this to happen, there will need to be increased standardization of data collection and management across the field so that adult literacy programs can begin to speak the same language when investigating what variables are involved and what can be done to impact these issues. Presently, there is great confusion about reported retention rates, as figures noted are calculated in varying ways. For example, retention rates reported over time will vary from those which report on a year to year basis. When each year is considered individually, students who remain in a program over time are counted as program successes each year, thus the program has a higher retention/completion rate than if those students were only listed as completers at the official end of their time in the program even if it were over several years.

Concluding Comments

While there is still much left to be considered, investigated and discussed with regard to retention and attrition in adult literacy, this

study presents not only working definitions, relevant variables, and a process with which to frame future research, but also presents findings and program implications which have impact on how adult literacy programs can presently begin to address the crucial issue of retention and attrition.

BIBLIOGRAPHY

Adult Basic Education New York State, A Two Year Study (1968). Title IIIm P.L. 89-750, 1965-1967, Albany, NY: The State Education Department, Bureau of Basic and Continuing Education.

August, B. and Havrilesky, C. (1983). *A Youth Literacy Program Manual*. New York, NY: Literacy Assistance Center, The Fund for the City of New York.

Anderson, R.E. and Darkenwald, G. (1979). *Participation and Persistence in American Adult Education*. New York: College Entrance Examination Board.

Balmuth, M. (1988). "Recruitment and retention in adult basic education: What does the research say?" *Journal of Reading*, April:620-623.

Bean, R., et.al. (1989). *Attrition in Urban Basic Literacy Programs and Strategies to Increase Retention*. Unpublished project report, Pittsburgh, PA: Pittsburgh Literacy Initiative.

Boraks, N. (1981). "Research and adult literacy programs." *Adult Literacy and Basic Education*, 5:5-11.

Boshier, R. (1973). "Educational participation and dropout: A theoretical model." *Adult Education*, 23:255-282.

Couvert, R. (1979). *The Evaluation of Literacy Programmes*: A Practical Guide. Paris: United Nations Educational, Scientific and Cultural Organization.

Cross, K. P. (1981). *Adults as Learners: Increasing Participation and Facilitating Learning*. San Francisco: Jossey-Bass Inc.

Darkenwald, G.G. (1987). *Retaining Adult Students*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

Darkenwald, G.G. and Gavin, W. (1987). "Dropout as a function of discrepancies between expectations and actual experiences of the classroom social envionment." *Adult Education Quarterly*, 37:152-163.

Darkenwald, G.G. and Valentine, T. (1985). "Factor structure of deterrents to public participation in adult education." *Adult Education Quarterly*, 35:177-193.

Darkenwald, G.G. (1981). *Retaining Adult Students*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

Fiske, M. (1980). "Changing hierarchies of commitment in adulthood.: in *Themes of Work and Love in Adulthood*, Smelser, N.J. and Erikson, E.H. Cambridge, MA: Harvard University Press.

Garrison, D.R. (1988). "A deductively derived and empirically confirmed structure of factors associated with dropout in adult education." *Adult Education Quarterly*, 38:199-210.

Garrison, D.R. (1987). "Dropout prediction within a broad psychosocial context: An analysis of Boshier's congruence model." *Adult Education Quarterly*, 37:212-222.

Garrison, D.R. (1985). "Predicting dropout in adult basic education using interaction effects among school and nonschool variables." *Adult Education Quarterly*, 36:25-38.

Hayes, E. (1988). "Typology of low-literate adults based on perceptions of deterrents to participation in adult basic education." *Adult Education Quarterly*, 39:1-10.

Hayes, E. and Darkenwald, G.G. (1988). "Participation in basic education: Deterrents for low-literate adults." *Studies in the Education of Adults*, 20:16-28.

Heathington, B.S. , Boser, J.A., and Salter, T. (1984). "Characteristices of adult beginning readers who persisted in a volunteer tutoring program." *Lifelong Learning*, 7(5):20-22, 28.

Hoyt, D.P. (1978). "A retrospective and prospective examination of retention-attrition research." in *New Directions for Student Services*, Noel, L. (ed.), SanFrancisco: Jossey-Bass, Inc.

Lawson, V.K. (1990). *Evaluation Study of Program Effectiveness.* Syracuse, NY: Literacy Volunteers of America Inc.

Lenning, O.T. (1982) "Variable-Selection and Measurement Concerns." in *New Directions for Institutional Research: Studying Student Attrition*, Pascarella, E. (ed.). SanFrancisco: Jossey-Bass, Inc.

Miller, M. (1978). Retaining adults: New educational designs for a new clientele." in *New Directions for Student Services*, Noel, L. SanFrancisco: Jossey-Bass, Inc.

Neubauer, A. and Dusewicz, R. (1988). *The Philadelphia Literacy Study.* Philadelphia, PA: Research for Better Schools.

Richardson, J. (1981). "A correlational study: Success, stability and staying power for adult beginning readers." *Adult Literacy and Basic Education*, 5:53-57.

Rockhill, K. (1982). "Researching participation in adult education: The potential of the qualitative perspective." *Adult Education,* 33:3-19.

Scanlon, D.S. and Darkenwald, G.G. (1984). "Identifying deterrents to participation in continuing education." *Adult Education Quarterly*, 34:155-166.

Smith-Burke, T. (1987). *Starting Over: Characteristics of Adult Literacy Learners.* unpublished report, NY: Literacy Assitance Center.

Tinto, V. (1982). "Defining dropout: A matter of perspective." in *New Directions for Institutional Research: Studying Student Attrition,* Pascarella, E. (ed.), SanFrancisco: Jossey-Bass, Inc.

Turner, T. and Stockdill, S., eds. (1987). *Technology for Literacy Project Evaluation.* unpublished report, St.Paul, MN: Technology for Literacy Project.

Wilson, R. (1980). "Personological variables related to GED retention and withdrawal." *Adult Education,* 30:173-185.

Appendix 1
Examples of Current Traditional Definitions

• Pennsylvania Department of Education

"Completion - A student passes by fulfilling the course requirements as established by the local program, not, in the case of 9-12, by later success in the GED test. If a student leaves a course early because he/she has fulfilled the course requirements before the program ends, consider that student a PASS and not an EARLY SEPARATION."

"Continuation - If level at end of program is the same as at beginning, that student is a CONTINUATION. The student has participated throughout the program, has fulfilled assignments, but has not progressed to the next level so cannot be considered a PASS (or COMPLETION)."

"Early Separation - Students who drop out of a level without completing the course level requirements. A student may separate early because he/she has met a personal objective, such as reviewing for College Boards. This student is still considered an EARLY SEPARATION if he/she did not actually fulfill the course level requirements (did not PASS). In this case, the primary reason for EARLY SEPARATION is a positive one, namely, 'met personal objectives'..."

• Darkenwald, Gordon G. and William Gavin. (1987). "Dropout as a function of discrepancies between expectations and actual experiences of the classroom social environment." *Adult Education Quarterly*, 37:152-163.

"Dropout: A student who attends the first class session, but fails to attend all subsequent class sessions through the fifth week of class is considered a dropout." (p.156.)

• Darkenwald, Gordon G. (1981). *Retaining Adult Students.* Columbus, OH: ERIC Clearinghouse on Adult, Career and Vocational Education.

"Dropouts are persons who, having enrolled in an adult education course or other learning activity, and having completed at least one class or comparable activity, cease attendance before having satisfied their objectives for participation. 'Dropout behavior' refers to the act of dropping out, and 'dropout process' to the sequence of interrelated events that culminates in dropout behavior."

Appendix 2 - Sample Student Data File

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SNAME:                          START:                          SEX:
 TNAME:                       END DATE:          SITE:          LEV:
TATUS:                        CONTRACT:           SET:
OALS:                            BIRTH:           AGE:
   SS#:                          MATCH:          FILE:          AREA:
  ABE:                             MAR:                         RES:
  GED:                             NAA:          IMMIG:         ETH:
H.S.DIP:                           DEP:           EMP:          ED:
  HPHONE:                       OCCUPA:                         ASST:
 IMPACT:                       SOURCE:                          HANDI:
    LOC:                          CITY:                         CNTY:
 ADDRESS:                     ADDRESS2:                         ZIP:

AD:     1RS:    1RC:    1WS:    1RW:     1M:    101:    102:    103:
104:    105:    106:    107:    108:    109:    110:    111:
2AD:    2RS:    2RC:    2WS:    2RW:     2M:    201:    202:    203:
4:      205:    206:    207:    208:    209:    210:    211:
3AD:    3RS:    3RC:    3WS:    3RW:     3M:    301:    302:    303:
304:    305:    306:    307:    308:    309:    310:    311:
TG:     2TG:    3TG:
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SCFL.85X                        Retrieve spec                   Page 1

F1-Help                         Esc-Main Menu                   F10-Continue

JAN85:      JAN86:      JAN87:      JAN88:      JAN89:
FEB85:      FEB86:      FEB87:      FEB88:      FEB89:
MAR85:      MAR86:      MAR87:      MAR88:      MAR89:
APR85:      APR86:      APR87:      APR88:      APR89:
MAY85:      MAY86:      MAY87:      MAY88:      MAY89:
JUN85:      JUN86:      JUN87:      JUN88:      JUN89:
JUL85:      JUL86:      JUL87:      JUL88:      JUL89:
AUG85:      AUG86:      AUG87:      AUG88:      AUG89:
SEP85:      SEP86:      SEP87:      SEP88:      SEP89:
OCT85:      OCT86:      OCT87:      OCT88:      OCT89:
NOV85:      NOV86:      NOV87:      NOV88:      NOV89:
DEC85:      DEC86:      DEC87:      DEC88:      DEC89:

SCFL85HR:       PDE STATS:      GRADE GAIN:         EARLY SEP:
SCFL86HR:        #15 SPEC:                      CONTACT HRS:
SCFL87HR:        59:  60:  61:  62:  63:  64:  65:  66:  67:
SCFL88HR:        68:  69:  70:  71:  72:  73:  74:  75:  76:
SCFL89HR:        77:  78:  79:  80:       NONE:

MCOL:       COMP:
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SCFL.85X                        Retrieve spec                   Page 2

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Appendix 2 - Sample Tutor Data File

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   TNAME:                          ZIP:          CNTY:                SITE:
STUDENTS:                                        FILE:            CATEGORY:
  STATUS:                 TCFLHRS:               SETTING:               ETH:
   #STUD:                TCFL86HRS:                 AREA:               MAR:
     AGE:                TCFL87HRS:                START:               EMP:
   BIRTH:                TCFL88HRS:                  SEX:          COMPUTER:
  COMMIT:                TCFL89HRS:                 EDUC:              SLEV:
    OCCUP:                    HPHONE:           CONTRACT:
 ADDRESS:                        ADDRESS2:                  CITY:
    JAN85:      JAN86:      JAN87:      JAN88:      JAN89:      ADED:
    FEB85:      FEB86:      FEB87:      FEB88:      FEB89:      #ADED:
    MAR85:      MAR86:      MAR87:      MAR88:      MAR89:      DEV88HRS:
    APR85:      APR86:      APR87:      APR88:      APR89:      DEV89HRS:
    MAY85:      MAY86:      MAY87:      MAY88:      MAY89:
    JUN85:      JUN86:      JUN87:      JUN88:      JUN89:
    JUL85:      JUL86:      JUL87:      JUL88:      JUL89:
    AUG85:      AUG86:      AUG87:      AUG88:      AUG89:
    SEP85:      SEP86:      SEP87:      SEP88:      SEP89:
    OCT85:      OCT86:      OCT87:      OCT88:      OCT89:
    NOV85:      NOV86:      NOV87:      NOV88:      NOV89:
    DEC85:      DEC86:      DEC87:      DEC88:      DEC89:
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TCFL.85X                          Retrieve spec                        Page 1

F1-Help                           Esc-Main Menu                  F10-Continue

     NAME:
      CUR:                MAIL:                CUR2:
  ADDRESS:                                 ADDRESS2:
     CITY:                                     ZIP:
   HPHONE:                                  WPHONE:
   SPHONE:                                     SS#:
   SKILLS:
  HOBBIES:
     ADED:
    #ADED:
    ABEYR:
   SDEV89:
     TYPE:
 DEV89HRS:
     CERT:
COMPLETION:
 WORKSHOP:                               TRAINING:
   TRAIN1:                                  TYPE1:
   TRAIN2:                                  TYPE2:
   TRAIN3:                                  TYPE3:
```

```
TCFL.85X                          Retrieve spec                        Page 2

F1-Help                           Esc-Main Menu                  F10-Continue
```

Appendix 3

VARIABLES

The variables included on the initial student and tutor data screens were as follows (based largely on the PA Department of Education (PDE) forms, *notes data required by PDE), however, not all variables were used in the analysis:

STUDENT VARIABLES

*1. **Student Name** (SNAME) - The student's name
2. **Tutor's Name** (TNAME) - The student's most recent tutor
*3. **Status** (STATUS) - The student's most recent status as marked by staff (teacher or coordinator) with the following options:
   a. *active:* currently receiving instruction
   b. *inactive/nonactive:* no hours of instruction received, yet not officially exited from the program
   c. *drop:* left the program before completing his/her goals
   d. *completion:* successful completion of his/her goals
*4. **Goals** (GOALS) - The student's "major reason for participating in program" according to the PDE form.
5. **Social Security Number** (SS#) - The student's social security number (optional to collect)
*6. **Adult Basic Education Completion** (ABE) - A yes/no question: "Has the student previously completed an ABE program?"
*7. **GED Completion** (GED) - A yes/no question: "Has the student received a GED?"
*8. **High School Diploma** (H.S.DIP) - A yes/no question "Has the student received a High School diploma?"
9. **Home Phone** (HPHONE) - The student's home telephone number
*10. **Program Impact Information** (IMPACT) - Based on PDE goal achievment categories, end of year achievments are listed
*11. **Location of classes** (LOC) - The PDE numerical code for the type of place (such as church, library, etc.) in which the student receives instruction
*12. **Address** (ADDRESS) - The student's street address
13. **Address** (ADDRESS2) - A continuation of the student's street address, if needed
*14. **City of Residence** (CITY) - The city and state in which the student resides
*15. **County** (CNTY) - The PDE code number for the county in which the student resides
*16. **Start date** (START) - The year and month in which the student began receiving instruction
17. **End date** (END DATE) - The year and month in which the student was considered to officially exit the program
*18. **Funding Contract** (CONTRACT) - The funding contract under which this student's instructional cost is covered
*19. **Date of Birth** (BIRTH) - The month and year in which the student was born
20. **Initial Match** (MATCH) - The month and year in which the student was matched with a tutor (if being tutored individually)
*21. **Marital Status** (MAR) - The student's marital status, selected from one of the following: *married, single, seperated/divorced, widowed*
22. **Neighborhood Assistance Act Eligibility** (NAA) - The student is either marked eligible or ineligible to be included under NAA funding which is based on income status.
*23. **Dependents** (DEP) - Number of dependents the student has, translated for this study to

yes or no, whether or not s/he has dependents.

24. **Occupation** (OCCUPA) - The student's occupation is listed (Not PDE categories).

*25. **Source** (SOURCE) - A category is selected from PDE forms to answer the question: "How did student find out about this program?".

*26. **Sex** (SEX) - The student's gender

*27. **Level** (LEV) - The student's beginning level is listed as one of the following: *0-4, 5-8, ESL, GED, or 9-12* .

28. **Area of Instruction** (AREA) - The geographic area of Philadelphia in which the student receives instruction, based on CFL divisions

*29. **Zip Code** (ZIP) - The zip code of the area in which the student resides, translated for this study into the same codes as area of instruction

30. **Site of Instruction** (SITE) - The site in which the student receives instruction, based on CFL codes

*31. **Setting** (SET) - The student is noted as to whether s/he is in a class or receiving individualized tutoring.

32. **CFL data file** (FILE) - The CFL data file in which the student's data is stored on the agency's computer

33. **Time at Residence** (RES) - How many years the student has lived at the listed address

*34. **Ethnic Membership** (ETH) - According to PDE categories, the ethnic group to which the student belongs, of the following: *White, Black, Hispanic, Asian, American I Indian*

35. **Use of CFL Computer Center** (COMP) - A yes/no answer to whether or not the student has attended one of CFL's computer learning centers

*36. **Public Assistance** (ASST) - The student is marked yes or no, as to whether or not s/he receives public assistance.

*37. **Handicapped** (HANDI) - The student is marked yes or no, as to whether or not s/he is handicapped.

*38. **CFL progress assessment** (1AD, 1RS, etc.) - In 1989 students were assessed on several continuums of progress and the results recorded (for more information on this study contact CFL).

*39. **Immigration Status** (IMMIG) - The student is marked yes or no, as to whether or not s/he is an immigrant.

*40. **Employment Status** (EMP) - The student's employment status, selected from one of the following: *employed, unemployed/available for work, and unemployed/unavailable for work*

*41. **Monthly Hours of Attendance** (JAN85 through DEC89) - The student' s hours of instruction for a given month

*42. **Yearly Hours of Attendance** (SCFL85HR through SCFL89HR) - The student's total hours of instruction for a given calendar year

43. **Referral from Philadelphia Mayor's Commission on Literacy** (MCOL) - An "X" is placed in the blank if the student was referred by MCOL.

*44. **PDE Status** (PDESTATS) - The student's end of year status as marked by staff from the following options:

a. *Continuation:* the student is continuing in the program
b. *Completion:* the student has left the program after completing his/her goal(s)
c. *Early Separation:* the student has left the program without completing his/her goal(s)

"EARLY SEP" refers to space provided to describe why someone was marked an early separation,

#15 **SPEC** refers to space provided to describe "other" if selected under reasons for early separation

*45. **End of Year Grade Gain** (GRADE GAIN) - The student's grade gain as summarized at the end of the PDE year

*46. **Other Contact Hours** (CONTACT HRS) - The total hours of extra contact by CFL staff outside of instruction a student received during the PDE year

*47. **Specific Goals Achieved** (59 through 80, and NONE) - According to PDE categories, an "X" is placed next to the category in which a goal was met during the PDE year.

*48. **Highest Education Level Achieved** (ED) - The last grade that the student completed

TUTOR VARIABLES

*1. **Tutor Name** (TNAME) - The tutor's name

2. **Students** (STUDENTS) - The name(s) of the students the tutor has worked with

3. **Status** (STATUS) - The tutor's most recent status as marked by staff (coordinator) of the following options:
   a. *active:* currently tutoring
   b. *inactive/nonactive:* no hours of instruction provided , yet not officially exited from the program
   c. *drop:* left the program before six months of service (or successful completion according to staff)
   d. *completion:* successful completion of 6 months or longer (or otherwise considered successful by staff)

*4. **Number of Students** (#STUD) - The number of students this tutor has

*5. **Age** (AGE) - The tutor's age

*6. **Date of Birth** (BIRTH) - The tutor's date of birth

*7. **Commitment** (COMMIT)- The length of the tutor's commitment

8. **Occupation** (OCCUP) - The tutor's occupation

*9. **Monthly Hours** (JAN85 through DEC89) - The tutor's total hours of tutoring in that particular month

*10. **Total Hours** (TCFL85HRS through TCFL89HRS) - The tutor's total hours of tutoring in that particular calendar year

*11. **County of Residence** (CNTY) - PDE codes for the county in which the tutor resides

12. **CFL Data File** (FILE) - The CFL data file in which the tutors's data is stored on the agency's computer

*13. **Setting** (SET) - The tutor is noted as to whether s/he is instructing in a class or individualized tutoring (very few CFL tutors work with a class).

14. **Area of Instruction** (AREA) - The geographic area of Philadelphia in which the tutor offers instruction, based on CFL divisions

*15. **Start date** (START) - The year and month in which the tutor began offering instruction

*16. **Sex** (SEX) - The tutor's gender

*17. **Highest Education Level Achieved** (EDUC) - The last grade that the tutor completed

*18. **Funding Contract** (CONTRACT) - The funding contract under which this tutor's student's instructional cost is covered

19. **Site of Instruction** (SITE) - The site in which the tutor offers instruction, based on CFL codes

*20. **Present Position** (CATEG) - The PDE code is marked for the category "tutor" for all tutors

*21. **Ethnic Membership** (ETH) - According to PDE categories, the ethnic group to which

the tutor belongs, of the following: *White, Black, Hispanic, Asian, American I Indian*

*22. **Marital Status** (MAR) - The tutor's marital status, selected from one of the ollowing: *married, single, separated/divorced, widowed*

*23. **Employment Status** (EMP) - The tutor's employment status, selected from one of the following: *employed, unemployed, retired*

24. **Use of CFL Computer Center** (COMP) - A yes/no answer to whether or not the tutor has attended one of CFL's computer learning centers

*25. **Level of Student** (SLEV) - The level of the student the tutor works with, chosen from one of the following: *0-4, 5-8, 9-12, GED*

*26. **Adult Education Background** (ADED) - A yes or no answer to the question: "Has the tutor taken classes in Adult Education?"

*27. **Number of Adult Education Courses** (#ADED) -The number of adult education classes taken

*28. **Staff Development Hours in 1988** (DEV88HRS) - The number of hours of staff development the tutor received in 1988

*29. **Staff Development Hours in 1989** (DEV89HRS) - The number of hours of staff development the tutor received in 1989

30. **Mail** (MAIL) - A yes or no is marked to notify the agency whether or not to send the tutor mail.

*31. **Address** (ADDRESS) - The tutor's street address

32. **Address** (ADDRESS2) - A continuation of the tutor's street address, if needed

*33. **City of Residence** (CITY) - The city and state in which the tutor resides

*34. **Zip Code** (ZIP) - The zip code of the area in which the tutor resides, translated for this study into the same codes as area of instruction

*35. **Home Phone** (HPHONE) - The tutor's home telephone number

36. **Social Security Number** (SS#) - The tutor's social security number (optional to collect)

37. **Skills** (SKILLS) - A listing of any special skills the tutor has to offer

38. **Hobbies** (HOBBIES) - A listing of any special hobbies the tutor has to offer

*39. **Years in Adult Basic Education** (ABEYR) - How many years the tutor has worked in adult basic education

*40. **Type** (TYPE) - PDE codes for the category of worker

*41. **Certification** (CERT) - The kinds of educational certification the tutor has, including CFL tutor training

42. **Completion** (COMPLETION) - Date of completion of tutor training

43. **Workshop Date** (WORKSHOP) - The date the tutor completed CFL tutor training

44. **Training Dates** (TRAIN 1, TRAIN 2, TRAIN 3) - Dates for any further training the tutor received at CFL

45. **Types of Training Received** (TYPE 1, TYPE 2, TYPE 3) - The types of training to correspond to the above training dates

CFL Studies Dropout Patterns

CFL was awarded a special grant from the Pennsylvania Department of Education to study dropout patterns. Staff initiated the project, one of few like it in the field of adult literacy, out of interest in learning more about the dropout and completion patterns of literacy students and tutors.

CFL teamed with Research for Better Schools (RBS) to use student and tutor data already entered on CFL's data system. The sample, taken from attendance and demographic records from 1985 through 1989, included 3,550 students and tutors. Students were defined as "dropout" or "non-dropout." Among the questions considered were: How long do students and tutors stay in CFL's program? Who tends to drop out and who tends to complete? What can CFL do to increase retention of students and tutors?

Project Director Marie Vannozzi states, "Initial findings have proved very interesting. Combined with staff response, they have resulted in some exciting potential program implications." Just one example is that while 37% of the whole student population had an employment status of "unemployed, but looking for work," more program dropouts had this status than did non-dropouts. This leads to a discussion of providing extra support, new curriculum materials, and special classes to increase retention.

Other findings are also being considered for both students and tutors. A final report will be available from CFL in July, 1990. The work is being continued throughout the summer with a special grant from the Fels Fund.

Vannozzi concludes, "We now have a better understanding of our constituents. Its implications can help not only CFL better serve its adult literacy learners but also programs throughout the state and nation."

For more information, contact Rose Brandt at CFL.

1990 Corporate and Foundation Contributors*

Over $10,000
ARCO Chemical Co.
Bell of PA
Pew Charitable Trusts
Philip Morris
Sun Company

$5,000-$9,999
CIGNA
Pep Boys /Strauss Foundation
Rohm & Haas
United Way

$1,000-$4,999
Byers Foundation
Chevron
Fels Fund
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Houghton-Carpenter Foundation
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First Pennsylvania Bank
GMAC Mortgage Corp.
Institute for Scientific Information
Keystone Insurance
KYW
Maaco Enterprises
Meridian Bank
Modern Group
Philadelphia Magazine
PQ Corporation
Reliance Insurance Co.
Isadore Sley Foundation
Snider Foundation

*received 1/1/90 through 6/1/90

APPENDIX 5

Additional Tables Addressing Research Questions 3-16

3. What are the characteristics of "drop-out" students?

4. What are the characteristics of "non-dropouts"?

5. What characteristics distinguish the dropouts from the non-dropouts?

TOTAL HOURS OF ATTENDANCE BY SEX

* * * CELL MEANS * * *

TOTALHRS
BY SEX

TOTAL POPULATION
69.04
(3343)

SEX

M	F
64.25	72.96
(1505)	(1838)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by NSEX

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	62766	1	62766.127	6.583	.010
SEX	62766	1	62766.127	6.583	.010
Explained	62766	1	62766.127	6.583	.010
Residual	31854432	3341	9534.400		
Total	31917198	3342	9550.328		

3550 cases were processed.
207 cases (5.8 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY SETTING

*** C E L L M E A N S ***

TOTALHRS
BY SET

TOTAL POPULATION
66.47
(3537)

SETTING

Class	Indiv
66.22	66.78
(1938)	(1599)

*** A N A L Y S I S O F V A R I A N C E ***

TOTALHRS
by SET

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	270	1	270.136	.029	.864
SETTING	270	1	270.136	.029	.864
Explained	270	1	270.136	.029	.864
Residual	32454794	3535	9180.988		
Total	32455064	3536	9178.468		

3550 cases were processed.
13 cases (.4 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY LEVEL

Variable TOTALHRS
By Variable LEVEL

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	367957.2440	91989.3110	9.7207	.0000
WITHIN GROUPS	3355	31749102.65	9463.2199		
TOTAL	3359	32117059.89			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-4	1783	77.7317	104.5122	2.4751	1.0000	907.0000	72.8774 TO 82.5861
7-9	934	60.5225	95.3545	3.1201	1.0000	893.0000	54.3993 TO 66.6457
9-12	13	16.0000	12.5864	3.4908	4.0000	50.0000	8.3941 TO 23.6059
ESL	583	55.5057	78.5190	3.2519	1.5000	692.0000	49.1187 TO 61.8926
GED	47	46.7128	67.7770	9.8863	1.0000	350.0000	26.8127 TO 66.6128
TOTAL	3360	68.4188	97.7829	1.6869	1.0000	907.0000	65.1113 TO 71.7262
	FIXED EFFECTS MODEL		97.2791	1.6782			65.1283 TO 71.7092
	RANDOM EFFECTS MODEL			8.0879			45.9636 TO 90.8739

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 160.8423

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3531, P = .000 (Approx.)

Bartlett-Box F = 28.133 , P = .000

Maximum Variance / Minimum Variance 68.950

TOTAL HOURS OF ATTENDANCE BY LEVEL (Continued)

MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -
2.77 2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
68.7867 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	9-12	GED	ESL	5-8	0-4
16.0000	9-12					
46.7128	GED					
55.5057	ESL					
60.5225	5-8					
77.7317	0-4	*	*	*	*	

TOTAL HOURS OF ATTENDANCE BY AGE

Variable TOTALHRS
By Variable AGERANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	1408702.305	352175.5762	33.6525	.0000
WITHIN GROUPS	2736	28632418.16	10465.0651		
TOTAL	2740	30041120.47			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
Under 25	352	39.7636	51.8124	2.7616	1.0000	530.5000	34.3322 TO 45.1950
25-34	978	61.3942	92.2711	2.9505	1.0000	893.0000	55.6041 TO 67.1842
25-44	714	84.2685	102.7583	3.8456	1.0000	763.5000	76.7184 TO 91.8186
45-54	448	99.3996	125.8476	5.9457	1.0000	907.0000	87.7145 TO 111.0846
55 and over	249	118.2157	138.5964	8.7832	1.5000	716.2000	100.9165 TO 135.5148
TOTAL	2741	75.9484	104.7087	2.0000	1.0000	907.0000	72.0268 TO 79.8701
FIXED EFFECTS MODEL			102.2989	1.9540			72.1171 TO 79.7798
RANDOM EFFECTS MODEL				12.9251			40.0632 TO 111.8337

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 661.9058

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3382, P = .000 (Approx.)
Bartlett-Box F = 84.155 , P = .000
Maximum Variance / Minimum Variance 7.155

TOTAL HOURS OF ATTENDANCE BY AGE (Continued)

MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -
2.77 2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
72.3362 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	Under 25	25-34	35-44	45-54	55 and Over
39.7636	Under 25					
61.3942	25-34	*				
84.2685	35-44	*	*			
99.3996	45-54	*	*	*		
118.2157	55 and Over	*	*	*	*	

TOTAL HOURS OF ATTENDENCE BY MARRIED

* * * CELL MEANS * * *

TOTALHRS
BY MARRIED

TOTAL POPULATION
77.52
(2571)

MARRIED

Married	Not Married
75.78	78.38
(848)	(1723)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by MARRIED

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	3868	1	3868.122	.341	.559
MARRIED	3868	1	3868.122	.341	.559
Explained	3868	1	3868.122	.341	.559
Residual	29105532	2569	11329.518		
Total	29109400	2570	11326.615		

3550 cases were processed.
979 cases (27.6 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY NAA

* * * CELL MEANS * * *

TOTALHRS
BY NAA

TOTAL POPULATION
75.39
(1461)

NAA

Eligible	Ineligible
78.20	72.29
(766)	(695)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by NAA

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	12727	1	12727.095	1.103	.294
NAA	12727	1	12727.095	1.103	.294
Explained	12727	1	12727.095	1.103	.294
Residual	16838126	1459	11540.868		
Total	16850853	1460	11541.680		

+3550 cases were processed.
2089 cases (58.8 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY ETHNIC GROUP

Variable TOTALHRS

By Variable ETH

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	125589.5704	41863.1901	3.9626	.0079
WITHIN GROUPS	2814	29728584.61	10564.5290		
TOTAL	2817	29854174.18			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
Asian	176	57.4886	64.1477	4.8353	2.5000	588.5000	47.9456 TO 67.0317
Black	1640	78.3073	110.8635	2.7376	1.0000	907.0000	72.9378 TO 83.6769
Hispanic	434	63.6134	89.3487	4.2889	1.0000	692.0000	55.1838 TO 72.0430
White	568	72.8894	97.6558	4.0975	1.5000	716.2000	64.8412 TO 80.9377
TOTAL	2818	73.6520	102.9459	1.9393	1.0000	907.0000	69.8495 TO 77.4546
	FIXED EFFECTS MODEL		102.7839	1.9362			69.8555 TO 77.4486
	RANDOM EFFECTS MODEL			5.1587			57.2350 TO 90.0691

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 56.1833

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3623, P = .000 (Approx.)

Bartlett-Box F = 32.067 , P = .000

Maximum Variance / Minimum Variance 2.987

TOTAL HOURS OF ATTENDANCE BY ETHNIC GROUP (Continued)

Variable TOTALHRS

By Variable ETH

MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
72.6792 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	Asian	Hispanic	White	Black
57.4886	Asian				
63.6134	Hispanic				
72.8894	White				
78.3073	Black	*	*		

TOTAL HOURS OF ATTENDANCE BY DEPENDENTS

* * * C E L L M E A N S * * *

TOTALHRS
BY DEPEND

TOTAL POPULATION
77.67
(2558)

DEPENDENTS

No	Yes
83.10	72.20
(1285)	(1273)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by DEPEND

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	75990	1	75990.403	6.723	.010
DEPEND	75990	1	75990.403	6.723	.010
Explained	75990	1	75990.403	6.723	.010
Residual	28891515	2556	11303.410		
Total	28967505	2557	11328.708		

3550 cases were processed.
992 cases (27.9 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY EMPLOYMENT

* * * C E L L M E A N S * * *

TOTALHRS
BY EMPLOYED

TOTAL POPULATION
76.44
(2624)

EMPLOYED

Yes	No
70.13	81.91
(1218)	(1406)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by EMPLOYED

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	90554	1	90553.672	8.085	.004
EMPLOYED	90554	1	90553.672	8.085	.004
Explained	90554	1	90553.672	8.085	.004
Residual	29367644	2622	11200.474		
Total	29458198	2623	11230.727		

3550 cases were processed.
926 cases (26.1 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY EDUCATION

Variable TOTALHRS
By Variable EDRANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	945697.1511	189139.4302	17.4187	.0000
WITHIN GROUPS	2474	26863716.27	10858.4140		
TOTAL	2479	27809413.42			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-3	242	116.2076	142.2616	9.1449	1.5000	758.5000	98.1935 TO 134.2218
4-6	351	104.1949	125.5557	6.7017	1.5000	779.5000	91.0143 TO 117.3755
7-9	682	75.9191	104.1999	3.9900	1.0000	907.0000	68.0848 TO 83.7533
9-11	607	60.9374	86.7707	3.5219	1.0000	610.0000	54.0208 TO 67.8540
HS	472	69.4947	95.0440	4.3748	2.0000	671.5000	60.8982 TO 78.0912
College	126	44.8214	45.3751	4.0423	2.0000	232.0000	36.8211 TO 52.8217
TOTAL	2480	77.3828	105.9150	2.1268	1.0000	907.0000	73.2123 TO 81.5534
FIXED EFFECTS MODEL		104.2037	2.0925				73.2797 TO 81.4860
RANDOM EFFECTS MODEL			9.8200				52.1401 TO 102.6256

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 451.4916

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3091, P = .000 (Approx.)

Bartlett-Box F = 47.124 , P = .000

Maximum Variance / Minimum Variance 9.830

TOTAL HOURS OF ATTENDANCE BY EDUCATION (Continued)

MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77

THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
73.6832 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	College	9-11	HS	7-9	4-6	0-3
44.8214	College						
60.9374	9-11						
69.4947	HS	*					
75.9191	7-9	*	*				
104.1949	4-6	*	*	*	*		
116.2076	0-3	*	*	*	*		

TOTAL HOURS OF ATTENDANCE BY ASSISTANCE

* * * CELL MEANS * * *

TOTALHRS
BY NASST

TOTAL POPULATION
76.91
(2613)

ASST

No	Yes
74.36	81.23
(1641)	(972)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by NASST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	28841	1	28840.962	2.555	.110
ASST	28841	1	28840.962	2.555	.110
Explained	28841	1	28840.962	2.555	.110
Residual	29471949	2611	11287.610		
Total	29500790	2612	11294.330		

3550 cases were processed.
937 cases (26.4 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY HANDICAPPED

* * * CELL MEANS * * *

TOTALHRS
BY NHANDI

TOTAL POPULATION
77.01
(2599)

HANDI

No	Yes
73.38	141.17
(2460)	(139)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by HANDI

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	604605	1	604605.037	54.480	.000
NHANDI	604605	1	604605.037	54.480	.000
Explained	604605	1	604605.037	54.480	.000
Residual	28820607	2597	11097.654		
Total	29425212	2598	11326.102		

3550 cases were processed.
951 cases (26.8 pct) were missing.

TOTAL HOURS OF ATTENDANCE BY AREA

Variable TOTALHRS
By Variable AREA

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	13	731796.6489	56292.0499	6.2419	.0000
WITHIN GROUPS	3517	31717743.15	9018.4086		
TOTAL	3530	32449539.80			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	348	69.5316	106.6525	5.7172	2.0000	893.0000	58.2869 TO 80.7763
e	382	60.4746	90.5062	4.6307	2.5000	692.0000	51.3697 TO 69.5795
h	313	66.0201	85.0573	4.8077	2.0000	616.0000	56.5605 TO 75.4798
hml	41	23.7927	20.1280	3.1435	2.5000	59.5000	17.4395 TO 30.1459
n	407	52.4489	81.1558	4.0227	1.0000	716.2000	44.5409 TO 60.3569
ne	193	56.2979	74.9424	5.3945	1.5000	442.5000	45.6579 TO 66.9380
ne2	176	70.5313	82.7386	6.2367	1.0000	492.5000	58.2225 TO 82.8400
nw	361	90.5291	110.7489	5.8289	1.0000	755.0000	79.0661 TO 101.9920
s	218	66.4954	88.5554	5.9977	2.0000	432.5000	54.6742 TO 78.3167
sat	16	115.0000	124.7153	31.1788	8.0000	466.0000	48.5439 TO 181.4561
sc	55	41.1455	39.7085	5.3543	2.0000	151.0000	30.4107 TO 51.8802
w	635	79.6225	123.9302	4.9180	1.0000	907.0000	69.9649 TO 89.2801
wf	195	39.6154	39.6050	2.8362	1.0000	342.0000	34.0217 TO 45.2091
wg	191	61.4602	70.6577	5.1126	1.5000	588.5000	51.3754 TO 71.5450
TOTAL	3531	66.5160	95.8775	1.6135	1.0000	907.0000	63.3525 TO 69.6795
	FIXED EFFECTS MODEL		94.9653	1.5981			63.3826 TO 69.6494
	RANDOM EFFECTS MODEL			4.7021			56.3576 TO 76.6744

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 193.6023

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1476, P = .000 (Approx.)
Bartlett-Box F = 41.053 , P = .000
Maximum Variance / Minimum Variance 38.392

TOTAL HOURS OF ATTENDANCE BY AREA (Continued)

Variable TOTALHRS
By Variable AREA

MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77
2.77 2.77 2.77

THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
67.1506 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	hml	wf	sc	n	ne	e	wg	h	s	cc	ne2	e	nw	sat
23.7927	hml														
39.6154	wf														
41.1455	sc														
52.4489	n														
56.2979	ne	*													
60.4746	e	*	*												
61.4602	wg	*	*												
66.0201	h	*	*												
66.4954	s	*	*												
69.5316	cc	*	*	*	*										
70.5313	ne2	*	*	*	*										
79.6225	e	*	*	*	*	*	*	*	*						
90.5291	nw	*	*	*	*	*	*	*	*	*	*	*			
115.0000	sat	*	*	*	*	*	*	*	*	*					

TOTAL HOURS OF ATTENDANCE BY ZIP

Variable TOTALHRS
By Variable ZIP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	168776.0573	21097.0072	1.8467	.0642
WITHIN GROUPS	2509	28663210.25	11424.1571		
TOTAL	2517	28831986.31			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	55	90.9855	148.0724	19.9661	2.5000	716.2000	50.9559 TO 131.0150
n	746	75.1936	100.5182	3.6802	1.0000	755.0000	67.9688 TO 82.4185
me	246	59.3293	74.3173	4.7383	1.5000	478.0000	49.9963 TO 68.6623
ne2	118	73.7881	87.5625	8.0608	2.0000	492.5000	57.8242 TO 89.7521
nw	267	87.1843	108.0734	6.6140	1.5000	758.5000	74.1619 TO 100.2067
s	330	87.2273	124.7590	6.8678	2.0000	893.0000	73.7170 TO 100.7375
su	122	69.9795	84.0042	7.6054	2.0000	588.5000	54.9227 TO 85.0364
w	598	80.8087	119.1733	4.8734	1.0000	907.0000	71.2377 TO 90.3797
wg	36	69.2917	63.5474	10.5912	3.0000	294.0000	47.7903 TO 90.7930
TOTAL	2518	77.7679	107.0276	2.1329	1.0000	907.0000	73.5855 TO 81.9502
	FIXED EFFECTS MODEL		106.8838	2.1300			73.5911 TO 81.9446
	RANDOM EFFECTS MODEL			3.4092			69.9062 TO 85.6295

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 37.8175

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .2243, P = .000 (Approx.)

Bartlett-Box F = 17.210 , P = .000

Maximum Variance / Minimum Variance 5.429

TOTAL HOURS OF ATTENDANCE BY ZIP (Continued)

Variable TOTALHRS
By Variable NZIP

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77

THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
75.5783 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	ne	wg	su	ne2	n	w	nw	s	cc
59.3293	ne									
69.2917	wg									
69.9795	su									
73.7881	ne2									
75.1936	n	*								
80.8087	w	*								
87.1843	nw	*								
87.2273	s	*								
90.9855	cc	*								

6. For all students, how is attendance affected when students residence area and instruction area are the same as compared to when they are different?

TOTAL HOURS OF ATTENDANCE BY RESIDENCE (SAME/DIFFERENT)

* * * CELL MEANS * * *

TOTALHRS
BY RES

TOTAL POPULATION
77.77
(2518)

RES

Same	Different
73.97	81.36
(1225)	(1293)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by RES

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	34331	1	34331.163	2.999	.083
RES	34331	1	34331.163	2.999	.083
Explained	34331	1	34331.163	2.999	.083
Residual	28797655	2516	11445.809		
Total	28831986	2517	11454.901		

3550 cases were processed.
1032 cases (29.1 pct) were missing.

7. For employed students, how is attendance affected by all relevant student characteristics?

EMPLOYED TOTAL HOURS OF ATTENDANCE BY SEX

* * * CELL MEANS * * *

TOTALHRS
BY SEX

TOTAL POPULATION
70.18
(1217)

SEX

M	F
69.14	71.58
(701)	(516)

* * * ANALYSIS OF VARIANCE * *

TOTALHRS
by SEX

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1760.774	1	1760.774	.220	.639
NSEX	1760.774	1	1760.774	.220	.639
Explained	1760.774	1	1760.774	.220	.639
Residual	9718489.186	1215	7998.757		
Total	9720249.960	1216	7993.627		

1218 cases were processed.
1 cases (.1 pct) were missing.

EMPLOYED TOTAL HOURS BY SETTING

* * * C E L L M E A N S * * *

TOTALHRS
BY SET

TOTAL POPULATION
70.18
(1217)

SET

Class	Indiv.
71.04	69.71
(431)	(786)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by SET

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	491.495	1	491.495	.061	.804
SET	491.495	1	491.495	.061	.804
Explained	491.495	1	491.495	.061	.804
Residual	9718494.876	1215	7998.761		
Total	9718986.371	1216	7992.587		

1218 cases were processed.
1 cases (.1 pct) were missing.

EMPLOYED TOTAL HOURS BY LEVEL

Variable TOTALHRS
By Variable LEV

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	170068.3919	42517.0980	5.2483	.0003
WITHIN GROUPS	1168	9462142.049	8101.1490		
TOTAL	1172	9632210.441			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-4	688	81.1001	97.8184	3.7293	1.5000	758.5000	73.7780 TO 88.4223
5-8	356	60.7528	81.1405	4.3004	1.0000	535.0000	52.2953 TO 69.2103
9-12	4	9.5000	4.9497	2.4749	5.0000	16.5000	1.6240 TO 17.3760
ESL	107	56.0327	70.8889	6.8531	2.5000	537.0000	42.4458 TO 69.6196
GED	18	34.5278	33.1008	7.8019	2.0000	120.5000	18.0672 TO 50.9884
TOTAL	1173	71.6794	90.6565	2.6470	1.0000	758.5000	66.4860 TO 76.8727
	FIXED EFFECTS MODEL		90.0064	2.6280			66.5233 TO 76.8355
	RANDOM EFFECTS MODEL			10.0444			43.7921 TO 99.5667

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 211.3442

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .4291, P = .000 (Approx.)
Bartlett-Box F = 14.981 , P = .000
Maximum Variance / Minimum Variance 390.549

EMPLOYED TOTAL HOURS BY LEVEL (Continued)

Variable TOTALHRS
By Variable LEV
MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77

THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
63.6441 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	9-12	GED	ESL	5-8	0-4
9.5000	9-12					
34.5278	GED					
56.0327	ESL					
60.7528	5-8					
81.1001	0-4	*	*	*		

EMPLOYED TOTAL HOURS BY AGE

Variable TOTALHRS

By Variable AGERANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	585140.1952	146285.0488	19.0538	.0000
WITHIN GROUPS	1183	9082455.715	7677.4774		
TOTAL	1187	9667595.910			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN	
Under 25	116	33.7759	38.3543	3.5611	1.5000	227.0000	26.7220 TO	40.8297
25-34	421	56.9347	80.8686	3.9413	1.0000	588.5000	49.1876 TO	64.6818
35-44	335	72.0275	81.1120	4.4316	1.5000	492.5000	63.3101 TO	80.7449
45-54	243	95.7449	108.4388	6.9563	1.5000	758.5000	82.0421 TO	109.4476
55 and over	73	122.2836	124.9160	14.6203	1.5000	537.0000	93.1385 TO	151.4286
TOTAL	1188	70.8833	90.2472	2.6183	1.0000	758.5000	65.7462 TO	76.0204
FIXED EFFECTS MODEL		87.6212	2.5421				65.8957 TO	75.8710
RANDOM EFFECTS MODEL				13.0632			34.6147 TO	107.1520
RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE							630.8768	

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3719, P = .000 (Approx.)

Bartlett-Box F = 38.584 , P = .000

Maximum Variance / Minimum Variance 10.607

EMPLOYED TOTAL HOURS BY AGE (Continued)

Variable TOTALHRS
By Variable AGERANGE
MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77

THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
61.9576 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	Under 25	25-34	35-44	45-44	55 and over
33.7759	Under 25					
56.9347	25-34	*				
72.0275	35-44	*	*			
95.7449	45-54	*	*	*		
122.2836	55 and over	*	*	*	*	

EMPLOYED TOTAL HOURS BY MARRIED

* * * CELL MEANS * * *

TOTALHRS
BY MARRIED

TOTAL POPULATION
70.48
(1196)

MARRIED

Married	Not Married
71.31	69.84
(521)	(675)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by MARRIED

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	636.737	1	636.737	.079	.779
MARRIED	636.737	1	636.737	.079	.779
Explained	636.737	1	636.737	.079	.779
Residual	9651732.507	1194	8083.528		
Total	9652369.244	1195	8077.296		

1218 cases were processed.
22 cases (1.8 pct) were missing.

EMPLOYED TOTAL HOURS BY NAA

* * * CELL MEANS * * *

TOTALHRS
BY NAA

TOTAL POPULATION
74.00
(724)

NAA

Eligible	Ineligible
74.49	73.81
(203)	(521)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by NAA

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	68.160	1	68.160	.008	.930
NAA	68.160	1	68.160	.008	.930
Explained	68.160	1	68.160	.008	.930
Residual	6294408.530	722	8718.017		
Total	6294476.690	723	8706.054		

1218 cases were processed.
494 cases (40.6 pct) were missing.

EMPLOYED TOTAL HOURS BY ETHNIC GROUP

Variable TOTALHRS
By Variable ETH

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	85052.7149	28350.9050	3.5458	.0141
WITHIN GROUPS	1202	9610676.291	7995.5710		
TOTAL	1205	9695729.006			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
Asian	79	60.9810	72.2122	8.1245	2.5000	588.5000	44.8064 TO 77.1557
Black	712	75.0572	94.6277	3.5463	1.0000	758.5000	68.0946 TO 82.0197
Hispanic	95	44.7263	69.5416	7.1348	1.5000	492.5000	30.5600 TO 58.8927
White	320	70.6656	86.4263	4.8314	1.5000	537.0000	61.1602 TO 80.1710
TOTAL	1206	70.5806	89.7009	2.5830	1.0000	758.5000	65.5129 TO 75.6483
	FIXED EFFECTS MODEL		89.4180	2.5748			65.5289 TO 75.6323
	RANDOM EFFECTS MODEL			6.6890			49.2935 TO 91.8677

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 88.7482

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3382, P = .000 (Approx.)

Bartlett-Box F = 7.241 , P = .000
Maximum Variance / Minimum Variance 1.852

EMPLOYED TOTAL HOURS BY ETHNIC GROUP (Continued)

Variable TOTALHRS

By Variable NETH

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
63.2280 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	Hispanic	Asian	White	Black
44.7263	Hispanic				
60.9810	Asian				
70.6656	White	*			
75.0572	Black	*			

EMPLOYED TOTAL HOURS BY DEPENDENTS

* * * CELL MEANS * * *

TOTALHRS
BY DEPEND

TOTAL POPULATION
70.11
(1183)

DEPEND	
No	Yes
74.05	66.00
(604)	(579)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by DEPEND

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	19146.407	1	19146.407	2.426	.120
DEPEND	19146.407	1	19146.407	2.426	.120
Explained	19146.407	1	19146.407	2.426	.120
Residual	9321462.204	1181	7892.855		
Total	9340608.611	1182	7902.376		

1218 cases were processed.
35 cases (2.9 pct) were missing.

EMPLOYED TOTAL HOURS BY EDUCATION

Variable TOTALHRS
By Variable EDRANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	526577.0130	105315.4026	13.7601	.0000
WITHIN GROUPS	1129	8641021.694	7653.6950		
TOTAL	1134	9167598.707			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-3	102	109.8137	124.9033	12.3673	1.5000	758.5000	85.2804 TO 134.3471
4-6	154	107.5318	122.8522	9.8997	1.5000	588.5000	80.0741 TO 78.5665
9-11	306	51.0539	64.9099	3.7106	1.5000	478.0000	43.7522 TO 58.3556
HS	236	61.5403	81.4672	5.3031	2.0000	537.0000	51.0926 TO 71.9879
College	56	50.3571	56.4897	7.5488	2.0000	232.0000	35.2291 TO 65.4852
TOTAL	1135	70.6660	89.9127	2.6688	1.5000	758.5000	65.4296 TO 75.9024
FIXED EFFECTS MODEL			87.4854	2.5968			65.5709 TO 75.7611
RANDOM EFFECTS MODEL				10.8838			42.6888 TO 98.6432
RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE						541.9411	

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3063, P = .000 (Approx.)
Bartlett-Box F = 29.289 , P = .000
Maximum Variance / Minimum Variance 4.889

EMPLOYED TOTAL HOURS BY EDUCATION (Continued)

Variable TOTALHRS
By Variable EDRANGE

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
61.8615 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	College	9-11	HS	7-9	4-6	0-3
50.3571	College						
51.0539	9-11						
61.5403	HS						
69.3203	7-9			*			
107.5318	4-6	*		*	*	*	
109.8137	0-3	*		*	*	*	

EMPLOYED TOTAL HOURS BY ASSISTANCE

* * * CELL MEANS * * *

TOTALHRS
BY ASST

TOTAL POPULATION
70.65
(1199)

ASST

No	Yes
70.33	76.40
(1137)	(62)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by NASST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	2165.303	1	2165.303	.268	.605
ASST	2165.303	1	2165.303	.268	.605
Explained	2165.303	1	2165.303	.268	.605
Residual	9666336.031	1197	8075.469		
Total	9668501.334	1198	8070.535		

1218 cases were processed.
19 cases (1.6 pct) were missing.

EMPLOYED TOTAL HOURS BY HANDICAPPED

* * * CELL MEANS * * *

TOTALHRS
BY NHANDI

TOTAL POPULATION
70.68
(1200)

HANDI

No	Yes
70.25	100.88
(1183)	(17)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by HANDI

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	15730.024	1	15730.024	1.952	.163
HANDI	15730.024	1	15730.024	1.952	.163
Explained	15730.024	1	15730.024	1.952	.163
Residual	9655892.362	1198	8060.010		
Total	9671622.386	1199	8066.407		

1218 cases were processed.
18 cases (1.5 pct) were missing.

EMPLOYED TOTAL HOURS BY RESIDENCE (SAME/DIFFERENT)

* * * C E L L M E A N S * * *

TOTALHRS
BY RES

TOTAL POPULATION
70.84
(1144)

RES

Same	Different
73.34	68.59
(543)	(601)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by RES

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	6444.731	1	6444.731	.792	.374
RES	6444.731	1	6444.731	.792	.374
Explained	6444.731	1	6444.731	.792	.374
Residual	9291789.021	1142	8136.418		
Total	9298233.753	1143	8134.938		

1218 cases were processed.
74 cases (6.1 pct) were missing.

EMPLOYED TOTAL HOURS BY ZIP

Variable TOTALHRS
By Variable NZIP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	63736.6670	7967.0834	.9792	.4505
WITHIN GROUPS	1135	9234497.086	8136.1208		
TOTAL	1143	9298233.753			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	32	70.8281	104.4409	18.4627	4.0000	456.0000	33.1732 TO 108.4831
n	275	66.0498	79.8461	4.8149	1.0000	435.0000	56.5709 TO 75.5287
ne	143	63.2063	74.9143	6.2646	1.5000	478.0000	50.8223 TO 75.5903
ne2	74	86.8851	98.0752	11.4010	3.0000	492.5000	64.1630 TO 109.6073
nw	137	83.2934	108.5155	9.2711	2.0000	758.5000	64.9593 TO 101.6276
s	119	62.7269	90.3386	8.2813	2.0000	537.0000	46.3276 TO 79.1262
su	75	70.3867	90.8807	10.4940	6.0000	588.5000	49.4769 TO 91.2964
w	267	72.5468	95.1202	5.8213	1.5000	565.0000	61.0852 TO 84.0084
wg	22	73.6136	56.9009	12.1313	5.5000	176.0000	48.3852 TO 98.8421
TOTAL	1144	70.8413	90.1939	2.6666	1.0000	758.5000	65.6092 TO 76.0733
	FIXED EFFECTS MODEL		90.2004	2.6668			65.6088 TO 76.0737
	EFFECTS MODEL			2.6668			64.6915 TO 76.9910

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES
RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -1.4117

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1613, P = .003 (Approx.)
Bartlett-Box F = 4.673 , P = .000
Maximum Variance / Minimum Variance 3.637

EMPLOYED TOTAL HOURS BY ZIP (Continued)

```
      Variable  TOTALHRS
   By Variable  NZIP

MULTIPLE RANGE TEST

 LSD PROCEDURE
 RANGES FOR THE 0.050 LEVEL -

          2.77   2.77   2.77   2.77   2.77   2.77   2.77   2.77
 THE RANGES ABOVE ARE TABLE RANGES.
 THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
       63.7813 * RANGE * DSQRT(1/N(I) + 1/N(J))
- NO TWO GROUPS ARE SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL
```

EMPLOYED TOTAL HOURS BY AREA

Variable TOTALHRS
By Variable AREA

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	13	306862.9405	23604.8416	3.0180	.0002
WITHIN GROUPS	1204	9416768.613	7821.2364		
TOTAL	1217	9723631.553			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	163	62.3160	93.5959	7.3310	2.0000	537.0000	47.8393 TO 76.7926
e	16	63.7188	103.5547	25.8887	2.5000	435.0000	8.5384 TO 118.8991
h	3	134.5000	68.8858	39.7712	82.0000	212.5000	-36.6236 TO 305.6236
hml	14	34.6786	23.2905	6.2246	4.0000	59.5000	21.2310 TO 48.1261
n	115	61.5478	67.9939	6.3405	1.0000	303.0000	48.9874 TO 74.1082
ne	114	69.3860	81.6475	7.6470	1.5000	442.5000	54.2359 TO 84.5360
ne2	109	78.9404	87.8501	8.4145	3.0000	492.5000	62.2613 TO 95.6194
nw	164	89.7128	99.2474	7.7499	2.5000	527.5000	74.4096 TO 105.0160
s	59	60.5508	80.3137	10.4560	2.0000	414.5000	39.6210 TO 81.4807
sat	3	91.3333	67.6782	39.0740	45.0000	169.0000	-76.7904 TO 259.4570
sc	23	46.6522	40.2338	8.3893	4.0000	119.0000	29.2538 TO 64.0506
w	217	86.1083	115.9469	7.8710	1.5000	758.5000	70.5945 TO 101.6221
wf	135	41.3926	38.8749	3.3458	2.0000	342.0000	34.7751 TO 48.0100
wg	83	70.4940	83.7817	9.1962	2.0000	588.5000	52.1997 TO 88.7882
TOTAL	1218	70.1276	89.3859	2.5612	1.0000	758.5000	65.1027 TO 75.1525
FIXED EFFECTS MODEL			88.4378	2.5340			65.1560 TO 75.0992
RANDOM EFFECTS MODEL				5.2888			58.7019 TO 81.5533

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 190.0118

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .1523, P = .000 (Approx.)

Bartlett-Box F = 16.125 , P = .000

Maximum Variance / Minimum Variance 24.783

EMPLOYED TOTAL HOURS BY AREA (Continued)

```
     Variable  TOTALHRS
   By Variable  NAREA
MULTIPLE RANGE TEST


LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

         2.77   2.77   2.77   2.77   2.77   2.77   2.77   2.77   2.77   2.77
         2.77   2.77   2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
      62.5349 * RANGE * DSQRT(1/N(I) + 1/N(J))
   (*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL


    Mean      Group      hml  wf  sc  s  n  cc  e  ne  wg  ne2  w  nw  sat  h
   34.6786     hml
   41.3926     wf
   46.6522     sc
   60.5508     s
   61.5478     n
   62.3160     cc          *
   63.7188     e
   69.3860     ne          *
   70.4940     wg          *
   78.9404     ne2         *
   86.1083     w      *    *   *  *  *  *
   89.7128     nw     *    *   *  *  *  *
   91.3333     sat
  134.5000     h
```

8. For unemployed students, how is attendance affected by all relevant student characteristics?

UNEMPLOYED TOTAL HOURS BY SEX

* * * C E L L M E A N S * * *

TOTALHRS
BY SEX

TOTAL POPULATION
81.96
(1405)

SEX

M	F
72.70	87.19
(507)	(898)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by SEX

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	68058	1	68058.104	4.879	.027
SEX	68058	1	68058.104	4.879	.027
Explained	68058	1	68058.104	4.879	.027
Residual	19570188	1403	13948.816		
Total	19638246	1404	13987.355		

1406 cases were processed.
1 cases (.1 pct) were missing.

UNEMPLOYED TOTAL HOURS BY SETTING

* * * C E L L M E A N S * * *

TOTALHRS
BY SET

TOTAL POPULATION
81.96
(1405)

NSET

Class	Indiv.
95.96	68.58
(687)	(718)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by SET

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	263201	1	263200.729	19.060	.000
SET	263201	1	263200.729	19.060	.000
Explained	263201	1	263200.729	19.060	.000
Residual	19374422	1403	13809.282		
Total	19637623	1404	13986.911		

1406 cases were processed.
1 cases (.1 pct) were missing.

UNEMPLOYED TOTAL HOURS BY LEVEL

Variable TOTALHRS
By Variable LEV

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	284863.4565	71215.8641	5.1159	.0004
WITHIN GROUPS	1389	19335443.75	13920.4059		
TOTAL	1393	19620307.20			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-4	739	92.6523	123.8675	4.5565	1.0000	907.0000	83.7070 TO 101.5976
5-8	457	63.6805	111.9559	5.2371	1.0000	893.0000	53.3887 TO 73.9723
9-12	9	18.8889	14.0685	4.6895	4.0000	50.0000	8.0749 TO 29.7029
ESL	185	89.8541	110.8450	8.1495	2.5000	692.0000	73.7756 TO 105.9325
GED	4	71.2500	106.9560	53.4780	5.0000	230.0000	-98.9384 TO 241.4384
TOTAL	1394	82.2454	118.6799	3.1787	1.0000	907.0000	76.0099 TO 88.4809
	FIXED EFFECTS MODEL		117.9848	3.1601			76.0464 TO 88.4444
	RANDOM EFFECTS MODEL			11.0652			51.5239 TO 112.9668

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 276.8587

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2962, P = .000 (Approx.)
Bartlett-Box F = 8.145 , P = .000
Maximum Variance / Minimum Variance 77.521

UNEMPLOYED TOTAL HOURS BY LEVEL (Continued)

```
        Variable  TOTALHRS
      By Variable  LEV

 MULTIPLE RANGE TEST


 LSD PROCEDURE
 RANGES FOR THE 0.050 LEVEL -

           2.77   2.77   2.77   2.77
OTHE RANGES ABOVE ARE TABLE RANGES.
 THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
       83.4278 * RANGE * DSQRT(1/N(I) + 1/N(J))
    (*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL


      Mean      Group      9-12  5-8  GED  ESL  0-4

    18.8889     9-12
    63.6805     5-8
    71.2500     GED
    89.8541     ESL              *
    92.6523     0-4              *
```

UNEMPLOYED TOTAL HOURS BY AGE

Variable TOTALHRS
By Variable AGERANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	958212.6433	239553.1608	17.6947	.0000
WITHIN GROUPS	1372	18574310.15	13538.1269		
TOTAL	1376	19532522.80			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
Under 25	207	42.8082	57.9289	4.0263	1.0000	530.5000	34.8701 TO 50.7463
25-34	488	65.7295	103.6408	4.6916	1.0000	893.0000	56.5112 TO 74.9478
25-44	343	98.1501	121.1567	6.5418	1.0000	763.5000	85.2828 TO 111.0175
45-54	178	111.8343	152.0810	11.3990	1.0000	907.0000	89.3389 TO 134.3296
55 and over	161	122.5280	148.7024	11.7194	2.0000	716.2000	99.3833 TO 145.6726
TOTAL	1377	82.9603	119.1434	3.2107	1.0000	907.0000	76.6618 TO 89.2587
FIXED EFFECTS MODEL			116.3535	3.1355			76.8093 TO 89.1112
RANDOM EFFECTS MODEL				14.7603			41.9798 TO 123.9408

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 864.5784

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3125, P = .000 (Approx.)
Bartlett-Box F = 49.684 , P = .000
Maximum Variance / Minimum Variance 6.892

UNEMPLOYED TOTAL HOURS BY AGE (Continued)

Variable TOTALHRS
By Variable AGERANGE

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77

OTHE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
82.2743 * RANGE * DSQRT(1/N(I) + 1/N(J))

0 (*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	Under 25	25-34	35-44	45-54	55 and over
42.8082	Under 25					
65.7295	25-34	*				
98.1501	35-44	*	*			
111.8343	45-54	*	*			
122.5280	55 and over	*	*	*		

UNEMPLOYED TOTAL HOURS BY MARRIED

* * * C E L L M E A N S * * *

TOTALHRS
BY MARRIED

TOTAL POPULATION
84.26
(1335)

MARRIED

Married	Not Married
84.57	84.16
(311)	(1024)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by MARRIED

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	40	1	40.315	.003	.958
MARRIED	40	1	40.315	.003	.958
Explained	40	1	40.315	.003	.958
Residual	19117612	1333	14341.795		
Total	19117653	1334	14331.074		

1406 cases were processed.
71 cases (5.0 pct) were missing.

UNEMPLOYED TOTAL HOURS BY NAA

*** C E L L M E A N S ***

TOTALHRS
BY NAA

TOTAL POPULATION
77.55
(728)

NAA
Eligible Ineligible
80.01 69.40
(559) (169)

*** A N A L Y S I S O F V A R I A N C E ***

TOTALHRS
by NAA

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	14618	1	14617.575	1.011	.315
NAA	14618	1	14617.575	1.011	.315
Explained	14618	1	14617.575	1.011	.315
Residual	10501224	726	14464.495		
Total	10515841	727	14464.706		

1406 cases were processed.
678 cases (48.2 pct) were missing.

UNEMPLOYED TOTAL HOURS BY ETHNIC GROUP

Variable TOTALHRS
By Variable NETH

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	45104.2399	15034.7466	1.0773	.3576
WITHIN GROUPS	1380	19259308.97	13956.0210		
TOTAL	1383	19304413.21			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
Asian	53	60.2358	71.1135	9.7682	2.5000	329.5000	40.6345 TO 79.8372
Black	893	82.9058	123.4481	4.1310	1.0000	907.0000	74.7981 TO 91.0134
Hispanic	195	90.1077	111.1907	7.9625	2.0000	692.0000	74.4034 TO 105.8119
White	243	76.8486	111.4197	7.1476	2.0000	716.2000	62.7692 TO 90.9280
TOTAL	1384	81.9888	118.1455	3.1758	1.0000	907.0000	75.7590 TO 88.2187
FIXED EFFECTS MODEL			118.1356	3.1755			75.7595 TO 88.2182
RANDOM EFFECTS MODEL				3.4849			70.8984 TO 93.0793

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 4.3991

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3381, P = .000 (Approx.)
Bartlett-Box F = 8.688 , P = .000
Maximum Variance / Minimum Variance 3.013
Variable TOTALHRS
By Variable NETH
MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -
2.77 2.77 2.77
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
83.5345 * RANGE * DSQRT(1/N(I) + 1/N(J))
- NO TWO GROUPS ARE SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

UNEMPLOYED TOTAL HOURS BY DEPENDENTS

* * * C E L L M E A N S * * *

TOTALHRS
BY DEPEND

TOTAL POPULATION
84.90
(1336)

DEPEND

No	Yes
91.69	78.12
(668)	(668)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by DEPEND

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	61576	1	61576.203	4.271	.039
DEPEND	61576	1	61576.203	4.271	.039
Explained	61576	1	61576.203	4.271	.039
Residual	19231703	1334	14416.569		
Total	19293280	1335	14451.895		

1406 cases were processed.
70 cases (5.0 pct) were missing.

UNEMPLOYED TOTAL HOURS BY EDUCATION

Variable TOTALHRS
By Variable EDRANGE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	460926.1681	92185.2336	6.6577	.0000
WITHIN GROUPS	1286	17806614.43	13846.5120		
TOTAL	1291	18267540.60			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
0-3	137	122.6369	155.0404	13.2460	2.0000	755.0000	96.4421 TO 148.8316
4-6	192	103.4844	128.9624	9.3071	2.0000	779.5000	85.1266 TO 121.8422
7-9	386	80.7443	119.9007	6.1028	1.0000	907.0000	68.7453 TO 92.7433
9-11	290	72.1431	104.5428	6.1390	1.0000	610.0000	60.0604 TO 84.2259
HS	219	79.4110	109.1562	7.3761	2.0000	671.5000	64.8734 TO 93.9485
College	68	39.5882	32.3421	3.9221	2.5000	129.0000	31.7598 TO 47.4167
TOTAL	1292	84.2431	118.9534	3.3094	1.0000	907.0000	77.7507 TO 90.7354
	FIXED EFFECTS MODEL		117.6712	3.2737			77.8207 TO 90.6655
	RANDOM EFFECTS MODEL			9.4148			60.0419 TO 108.4442

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 381.0898

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3045, P = .000 (Approx.)

Bartlett-Box F = 29.874 , P = .000

Maximum Variance / Minimum Variance 22.980

UNEMPLOYED TOTAL HOURS BY EDUCATION (Continued)

Variable TOTALHRS
By Variable EDRANGE

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77

OTHE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
83.2061 * RANGE * DSQRT(1/N(I) + 1/N(J))
0 (*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

Mean	Group	College	9-11	HS	7-9	4-6	0-3
39.5882	College						
72.1431	9-11	*					
79.4110	HS	*					
80.7443	7-9	*					
103.4844	4-6	*	*	*	*		
122.6369	0-3	*	*	*	*		

UNEMPLOYED TOTAL HOURS BY ASSISTANCE

* * * C E L L M E A N S * * *

TOTALHRS
BY ASST

TOTAL POPULATION
82.71
(1382)

ASST

No	Yes
84.17	81.90
(496)	(886)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by ASST

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1640	1	1639.844	.116	.734
ASST	1640	1	1639.844	.116	.734
Explained	1640	1	1639.844	.116	.734
Residual	19560093	1380	14173.980		
Total	19561733	1381	14164.904		

1406 cases were processed.
24 cases (1.7 pct) were missing.

UNEMPLOYED TOTAL HOURS BY HANDICAPPED

* * * C E L L M E A N S * * *

TOTALHRS
BY HANDI

TOTAL POPULATION
82.31
(1390)

HANDI

No	Yes
76.11	146.79
(1268)	(122)

* * * A N A L Y S I S O F V A R I A N C E * * *

TOTALHRS
by HANDI

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	555984	1	555983.653	40.571	.000
HANDI	555984	1	555983.653	40.571	.000
Explained	555984	1	555983.653	40.571	.000
Residual	19020901	1388	13703.819		
Total	19576884	1389	14094.229		

1406 cases were processed.
16 cases (1.1 pct) were missing.

UNEMPLOYED TOTAL HOURS BY ZIP

Variable TOTALHRS
By Variable ZIP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	256811.4140	32101.4268	2.1990	.0252
WITHIN GROUPS	1287	18787794.56	14598.1310		
TOTAL	1295	19044605.98			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	22	124.0545	195.4194	41.6636	2.5000	716.2000	37.4104 TO 210.6987
n	434	80.3278	112.8181	5.4154	1.0000	755.0000	69.6839 TO 90.9716
ne	94	56.7447	75.8026	7.8184	2.0000	435.0000	41.2188 TO 72.2706
ne2	40	52.3750	63.1116	9.9788	2.0000	279.0000	32.1909 TO 72.5591
nw	126	93.6508	108.7337	9.6868	1.5000	511.0000	74.4795 TO 112.8221
s	205	103.2049	140.2310	9.7942	2.0000	893.0000	83.8941 TO 122.5156
su	42	74.0238	75.2804	11.6160	2.0000	329.5000	50.5648 TO 97.4828
w	319	89.6022	137.2552	7.6848	1.0000	907.0000	74.4827 TO 104.7217
wg	14	62.5000	74.5711	19.9300	3.0000	294.0000	19.4439 TO 105.5561
TOTAL	1296	85.2967	121.2694	3.3686	1.0000	907.0000	78.6882 TO 91.9052
FIXED EFFECTS MODEL			120.8227	3.3562			78.7125 TO 91.8809
RANDOM EFFECTS MODEL				6.3901			70.5612 TO 100.0322
RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE						137.6141	

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3125, P = .000 (Approx.)
Bartlett-Box F = 13.937 , P = .000
Maximum Variance / Minimum Variance 9.588

UNEMPLOYED TOTAL HOURS BY ZIP (Continued)

```
      Variable  TOTALHRS
   By Variable   ZIP

MULTIPLE RANGE TEST


LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

          2.77   2.77   2.77   2.77   2.77   2.77   2.77   2.77
OTHE RANGES ABOVE ARE TABLE RANGES.
 THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
        85.4346 * RANGE * DSQRT(1/N(I) + 1/N(J))
0   (*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL
```

Mean	Group	ne2	ne	wg	su	n	w	nw	s	cc
52.3750	ne2									
56.7447	ne									
62.5000	wg									
74.0238	su									
80.3278	n									
89.6022	w		*							
93.6508	nw		*							
103.2049	s	*	*			*				
124.0545	cc	*	*							

UNEMPLOYED TOTAL HOURS BY AREA

Variable TOTALHRS
By Variable AREA

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	13	956898.0536	73607.5426	5.4830	.0000
WITHIN GROUPS	1392	18687114.38	13424.6511		
TOTAL	1405	19644012.44			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
cc	161	71.2143	119.6902	9.4329	2.0000	893.0000	52.5852 TO 89.8434
e	161	96.0311	118.2314	9.3179	2.5000	692.0000	77.6290 TO 114.4331
h	63	145.9730	133.9005	16.8699	2.5000	616.0000	112.2506 TO 179.6954
hml	26	18.3462	16.2565	3.1882	2.5000	59.0000	11.7800 TO 24.9123
n	209	54.9483	95.3857	6.5980	1.0000	716.2000	41.9409 TO 67.9558
ne	66	42.7879	63.8245	7.8563	2.0000	346.5000	27.0979 TO 58.4779
ne2	57	64.1316	75.7796	10.0373	2.5000	435.0000	44.0245 TO 84.2386
nw	170	100.5103	125.4778	9.6237	4.0000	755.0000	81.5121 TO 119.5085
s	135	77.7926	96.2735	8.2859	2.0000	432.5000	61.4045 TO 94.1807
sat	4	208.0000	172.0233	86.0116	120.0000	466.0000	-65.7234 TO 481.7234
sc	28	40.7143	40.9085	7.7310	2.0000	151.0000	24.8516 TO 56.5770
w	270	100.1419	152.3421	9.2712	1.0000	907.0000	81.8884 TO 118.3953
wf	4	42.2500	54.0409	27.0204	10.0000	123.0000	-43.7398 TO 128.2398
wg	52	73.6442	73.1367	10.1422	3.0000	329.5000	53.2828 TO 94.0056
TOTAL	1406	81.9069	118.2434	3.1534	1.0000	907.0000	75.7209 TO 88.0928
	FIXED EFFECTS MODEL		115.8648	3.0900			75.8453 TO 87.9684
	RANDOM EFFECTS MODEL			9.1264			62.1906 TO 101.6232

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 630.1985

Tests for Homogeneity of Variances
0 Cochrans C = Max. Variance/Sum(Variances) = .1932, P = .000 (Approx.)
Bartlett-Box F = 18.974 , P = .000
Maximum Variance / Minimum Variance 111.974

UNEMPLOYED TOTAL HOURS BY AREA (Continued)

Variable TOTALHRS
By Variable NAREA

MULTIPLE RANGE TEST

LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -

2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77 2.77
2.77 2.77 2.77

OTHE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
81.9288 * RANGE * DSQRT(1/N(I) + 1/N(J))
(*) DENOTES PAIRS OF GROUPS SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL

		1	1		1		1		1						
Mean	Group	hml	sc	wf	ne	n	ne2	cc	wg	s	e	w	nw	h	sat
18.3462	hml														
40.7143	sc														
42.2500	wf														
42.7879	ne														
54.9483	n														
64.1316	ne2														
71.2143	cc	*													
73.6442	wg	*													
77.7926	s	*	*												
96.0311	e	*	*		*	*									
100.1419	w	*	*		*	*	*	*							
100.5103	nw	*	*		*	*	*	*							
145.9730	h	*	*		*	*	*	*	*	*	*	*	*		
208.0000	sat	*	*	*	*	*	*	*	*	*					

9. **Do students with high levels of responsibility, (married, employed, with dependents) tend to have lover attendance than those with a lover level of responsibility?**

* * * CELL MEANS * * *

TOTALHRS
BY RESPONS

TOTAL POPULATION
76.96
(357)

RESPONS

Married,Employed, w/Dependents	Single,Unemployed, no Dependents
62.93	106.09
(241)	(116)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by RESPONS

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	145887.346	1	145887.346	13.663	.000
RESPONS	145887.346	1	145887.346	13.663	.000
Explained	145887.346	1	145887.346	13.663	.000
Residual	3790469.735	355	10677.380		
Total	3936357.081	356	11057.183		

3550 cases were processed.
3193 cases (89.9 pct) were missing.

10. What is the relationship between last grade completed (education level) with attendance?

PEARSON CORRELATION COEFFICIENTS

	ED
TOTALHRS	-.1448 (2625) P= .000

11. Do single mothers with children tend to have lover attendance than other students?

```
      Variable  TOTHRS
   By Variable  SINGMOM
```

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	6218.1644	3109.0822	.2595	.7715
WITHIN GROUPS	896	10734036.02	11979.9509		
TOTAL	898	10740254.18			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
F,Single,Dep	502	82.0383	113.2869	5.0562	1.0000	779.5000	72.1043 TO 91.9724
F,Married,No Dep	149	79.2631	98.3590	8.0579	3.0000	907.0000	63.3397 TO 95.1865
F,Married,Dep	248	75.9536	107.8388	6.8478	2.0000	893.0000	62.4662 TO 89.4411
TOTAL	899	79.8998	109.3627	3.6474	1.0000	907.0000	72.7413 TO 87.0584
	FIXED EFFECTS MODEL		109.4530	3.6505			72.7354 TO 87.0643
	RANDOM EFFECTS MODEL			3.6505			64.1930 TO 95.6067

```
WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
          IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES
RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE       -33.7568
Tests for Homogeneity of Variances
    Cochrans C = Max. Variance/Sum(Variances) =  .3759, P =  .088 (Approx.)
      Bartlett-Box F =                           2.233 , P =  .107
      Maximum Variance / Minimum Variance        1.327
+     Variable  TOTHRS
   By Variable  SINGMOM
MULTIPLE RANGE TEST
LSD PROCEDURE
RANGES FOR THE 0.050 LEVEL -
          2.78   2.78
THE RANGES ABOVE ARE TABLE RANGES.
THE VALUE ACTUALLY COMPARED WITH MEAN(J)-MEAN(I) IS..
       77.3949 * RANGE * DSQRT(1/N(I) + 1/N(J))
- NO TWO GROUPS ARE SIGNIFICANTLY DIFFERENT AT THE 0.050 LEVEL
```

12. What is the range of attendance among classes ?

BREAKDOWN OF AREA BY SETTING

D E S C R I P T I O N O F S U B P O P U L A T I O N S

Criterion Variable TOTALHRS
Broken Down by AREA
by SET

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			66.6835	96.0008	3518
AREA	1	cc	69.5316	106.6525	348
SET	1	class	132.2600	185.5083	50
SET	2	indiv	59.0067	82.6953	298
AREA	2	e	60.3840	90.6079	381
SET	1	class	60.3840	90.6079	381
AREA	3	h	66.3096	85.2404	311
SET	1	class	66.3096	85.2404	311
AREA	4	hml	23.7927	20.1280	41
SET	1	class	23.7927	20.1280	41
AREA	5	n	52.4611	81.2556	406
SET	1	class	52.5779	78.0244	321
SET	2	indiv	52.0200	92.9596	85
AREA	6	ne	57.4471	75.3114	189
SET	1	class	57.3000	76.9192	10
SET	2	indiv	57.4553	75.4406	179
AREA	7	ne2	70.5313	82.7386	176
SET	1	class	113.2969	120.2652	32
SET	2	indiv	61.0278	68.8612	144
AREA	8	nw	90.5291	110.7489	361
SET	1	class	66.0714	82.9346	140
SET	2	indiv	106.0226	122.8942	221
AREA	9	s	66.4954	88.5554	218
SET	1	class	54.0921	81.0884	76
SET	2	indiv	73.1338	91.8921	142
AREA	10	sat	115.0000	124.7153	16
SET	1	class	144.0909	139.9826	11
SET	2	indiv	51.0000	43.4971	5

BREAKDOWN OF AREA BY SETTING (Continued)

Variable	Value	Label	Mean	Std Dev	Cases
AREA	11	sc	41.1455	39.7085	55
SET	1	class	28.3438	30.3912	16
SET	2	indiv	46.3974	42.1754	39
AREA	12	w	79.6225	123.9302	635
SET	1	class	101.4837	154.8182	276
SET	2	indiv	62.8156	90.2003	359
AREA	13	wf	39.6154	39.6050	195
SET	1	class	39.4553	39.5802	190
SET	2	indiv	45.7000	44.7878	5
AREA	14	wg	62.6661	71.1749	186
SET	1	class	72.1172	69.3273	64
SET	2	indiv	57.7082	71.9088	122

Total Cases = 3550
Missing Cases = 32 or .9 Pct

13. **What is the effect of poverty related variables on attendance (Neighborhood Assistance Act eligibility, public assistance)?**

* * * CELL MEANS * * *

TOTALHRS
BY POV

TOTAL POPULATION
74.24
(1060)

POV
NAA Eligible/Assistance
77.42
(427)

NAA ineligible/No Assistance
72.09
(633)

* * * ANALYSIS OF VARIANCE * * *

TOTALHRS
by POV

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	7232	1	7232.116	.616	.433
POV	7232	1	7232.116	.616	.433
Explained	7232	1	7232.116	.616	.433
Residual	12424746	1058	11743.617		
Total	12431978	1059	11739.356		

3550 cases were processed.
2490 cases (70.1 pct) were missing.

14. What is the level of attendance in the Special Populations programs (Horizon House, ESL, Workforce literacy)?

SPECIAL POPULATION AREAS BY TOTAL HOURS

D E S C R I P T I O N O F S U B P O P U L A T I O N S

Criterion Variable TOTALHRS
Broken Down by NAREA

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			57.8546	80.5689	890
NAREA	2	e	60.4746	90.5062	382
NAREA	3	h	66.0201	85.0573	313
NAREA	13	wf	39.6154	39.6050	195

Total Cases = 890

ALL OTHER AREAS BY TOTAL HOURS

D E S C R I P T I O N O F S U B P O P U L A T I O N S

Criterion Variable TOTALHRS
Broken Down by NAREA

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			69.4348	100.3582	2641
NAREA	1	cc	69.5316	106.6525	348
NAREA	4	hml	23.7927	20.1280	41
NAREA	5	n	52.4489	81.1558	407
NAREA	6	ne	56.2979	74.9424	193
NAREA	7	ne2	70.5313	82.7386	176
NAREA	8	nw	90.5291	110.7489	361
NAREA	9	s	66.4954	88.5554	218
NAREA	10	sat	115.0000	124.7153	16
NAREA	11	sc	41.1455	39.7085	55
NAREA	12	w	79.6225	123.9302	635
NAREA	14	wg	61.4602	70.6577	191

Total Cases = 2641

15. What is the relationship between educational level attained and reading level assignment on attendance?

- - - - - - - - - - - - - - - - P E A R S O N C O R R E L A T I O N C O E F F I C I E N T S - - - - - - - - - - -

LEVEL = 0-4

	NED
TOTALHRS	-.1429
	(1416)
	P= .000

LEVEL = 5-8

	NED
TOTALHRS	-.1147
	(809)
	P= .001

LEVEL = 9-12

	NED
TOTALHRS	.0601
	(12)
	P= .426

LEVEL = ESL

	NED
TOTALHRS	-.0734
	(297)
	P= .104

15. (Continued)

- - - - - - - - - - - - - - - - P E A R S O N C O R R E L A T I O N C O E F F I C I E N T S - - - - - - - - - -

LEVEL = GED

	NED
TOTALHRS	.0376
	(21)
	P= .436

16. What combination of student characteristics best predicts attendance and dropping out?

* * * * MULTIPLE REGRESSION * * * *

Pairwise Deletion of Missing Data
Equation Number 1 Dependent Variable.. TOTALHRS

Beginning Block Number 1. Method: Stepwise

Variable(s) Entered on Step Number 1.. AGERANGE

Multiple R	.21573
R Square	.04654
Adjusted R Square	.04586
Standard Error	93.46193

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	600337.81542	600337.81542
Residual	1408	12299067.03571	8735.13284

F = 68.72681 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig T
AGERANGE	17.927611	2.162516	.215731	8.290	.0000
(Constant)	17.339171	6.112354		2.837	.0046

Variables not in the Equation

Variable	Beta In	Partial	Min Toler	
NSEX	.036171	.037017	.998546	1.3
NLEV	-.072927	-.074330	.990501	-2.7
MARRIED	.052287	.052664	.967240	1.9
NNAA	-.038888	-.039771	.997257	-1.4
NETH	-.004122	-.004221	.999818	-.1
DEPEND	-.025695	-.026124	.985593	-.9
EMPLOYED	.062028	.063495	.999084	2.3
EDRANGE	-.058837	-.057841	.921450	-2.1
NHANDI	.134045	.137145	.998063	5.1
NASST	.051971	.052985	.991050	1.9
NAREA	.003388	.003455	.991566	.1
NSET	-.015740	-.016060	.992639	-.6
NZIP	.012434	.012705	.995511	.4

2.5

2.6

* * * * MULTIPLE REGRESSION * * * *

Equation Number 1 Dependent Variable.. TOTALHRS

Variable(s) Entered on Step Number 2.. NHANDI

Multiple R	.25392
R Square	.06447
Adjusted R Square	.06314
Standard Error	92.61170

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	831667.50873	415833.75437
Residual	1407	12067737.34239	8576.92775

F = 48.48283 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig T
AGERANGE	17.437409	2.144921	.209832	8.130	.0000
NHANDI	56.766103	10.930481	.134045	5.193	.0000
(Constant)	-41.100923	12.779280		-3.216	.0013

Variables not in the Equation

Variable	Beta In	Partial	Min Toler	
NSEX	.044086	.045470	.994711	1.7
NLEV	-.064332	-.066051	.986192	-2.4
MARRIED	.035795	.036111	.952069	1.3
NNAA	-.031931	-.032922	.994505	-1.2
NETH	-.007761	-.008020	.997329	-.3
DEPEND	-.010605	-.010816	.973038	-.4
EMPLOYED	.041111	.041906	.971080	1.5
EDRANGE	-.060995	-.060527	.919454	-2.2
NASST	.032338	.032900	.968316	1.2
NAREA	.012127	.012459	.987427	.4
NSET	-.010165	-.010462	.990404	-.3
NZIP	.001700	.001748	.989130	.0

* *

Variable(s) Entered on Step Number 3.. NLEV

Multiple R	.26183
R Square	.06855
Adjusted R Square	.06657
Standard Error	92.44232

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	884315.35544	294771.78515
Residual	1406	12015089.49569	8545.58286

F = 34.49405 Signif F = .0000

* * * * MULTIPLE REGRESSION * * * *

Equation Number 1 Dependent Variable.. TOTALHRS

Variables in the Equation					
Variable	B	SE B	Beta	T	Sig T
AGERANGE	16.931828	2.150666	.203749	7.873	.0000
NHANDI	54.976043	10.934299	.129818	5.028	.0000
NLEV	-5.325634	2.145615	-.064332	-2.482	.0132
(Constant)	-27.917456	13.817536		-2.020	.0435

Variables not in the Equation				
Variable	Beta In	Partial	Min Toler	
NSEX	.059746	.060442	.944651	2.2
MARRIED	.028955	.029097	.940590	1.0
NNAA	-.032701	-.033787	.986052	-1.2
NETH	-.009535	-.009872	.985439	-.1
DEPEND	-.003909	-.003974	.962505	-.1
EMPLOYED	.045253	.046143	.965587	1.7
EDRANGE	-.059740	-.059401	.912712	-2.2
NASST	.038836	.039419	.959630	1.4
NAREA	.007396	.007594	.980759	.2
NSET	-.040497	-.038619	.843029	-1.4
NZIP	-.006206	-.006347	.971599	-.2

* *

Variable(s) Entered on Step Number 4.. NSEX

Multiple R	.26825
R Square	.07196
Adjusted R Square	.06932
Standard Error	92.30614

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	4	928209.23913	232052.30978
Residual	1405	11971195.61200	8520.42392

F = 27.23483 Signif F = .0000

Variables in the Equation					
Variable	B	SE B	Beta	T	Sig T
AGERANGE	16.633015	2.151529	.200153	7.731	.0000
NHANDI	56.099951	10.929414	.132472	5.133	.0000
NLEV	-6.345370	2.189055	-.076650	-2.899	.0038
NSEX	11.488639	5.061709	.059746	2.270	.0234
(Constant)	-44.191018	15.548930		-2.842	.0045

Variables not in the Equation				
Variable	Beta In	Partial	Min Toler	
MARRIED	.022762	.022783	.928736	.8
NNAA	-.019432	-.019491	.895066	-.7
NETH	-.002273	-.002339	.938375	-.0
DEPEND	-.011745	-.011862	.937523	-.4
EMPLOYED	.033745	.033609	.906177	1.2
EDRANGE	-.059100	-.058869	.909865	-2.2
NASST	.025356	.024940	.891874	.9
NAREA	.004455	.004576	.938150	.1
NSET	-.029227	-.027384	.814721	-1.0
NZIP	-.004158	-.004258	.932765	-.1

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. TOTALHRS

Variable(s) Entered on Step Number 5.. EDRANGE

Multiple R	.27416
R Square	.07517
Adjusted R Square	.07188
Standard Error	92.17887

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	5	969696.13680	193939.22736
Residual	1404	11929708.71432	8496.94353

F = 22.82459 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig T
AGERANGE	15.265036	2.235978	.183691	6.827	.0000
NHANDI	56.488372	10.915760	.133390	5.175	.0000
NLEV	-6.244133	2.186517	-.075427	-2.856	.0044
NSEX	11.369838	5.055016	.059128	2.249	.0247
EDRANGE	-3.437612	1.555725	-.059100	-2.210	.0273
(Constant)	-28.532009	17.068198		-1.672	.0948

Variables not in the Equation

Variable	Beta In	Partial	Min Toler	
MARRIED	.021203	.021251	.872012	.7
NNAA	-.016098	-.016148	.895052	-.6
NETH	-7.274E-04	-.000750	.909862	-.0
DEPEND	-.013204	-.013355	.897411	-.5
EMPLOYED	.030183	.030055	.906166	1.1
NASST	.022321	.021973	.891867	.8
NAREA	.004305	.004430	.903964	.1
NSET	-.028754	-.026988	.814675	-1.0
NEIP	-.003240	-.003324	.906947	-.1